



**2023, Vol. 15, No. 1**

ISSN 2029-1922/Print/

ISSN 2669-1159 /Online/

**ŠVIETIMAS:**  
**politika,  
vadyba,  
kokybė**

ISSN 2029-1922



9 772029 192004

**EDUCATION POLICY, MANAGEMENT AND QUALITY**

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**EDUCATION**  
Policy, Management and Quality

Scientific Methodical Center „Scientia Educologica“, Lithuania,  
*The Associated Member of Lithuanian Scientific Society, Association of Lithuanian  
Serials and ICASE (International Council of Associations for Science Education)*

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This journal is indexed in JournalSeek, Directory of Research Journals Indexing (DRJI), Open Academic Journals Index (OAJI), Eurasian Scientific Journal Index (ESJI), QOAM, EuroPUB, MIAR, SCIENCEGATE, SOCOLAR, Google Scholar, and Copernicus Index (IC)



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**EDUCATION POLICY, MANAGEMENT AND QUALITY** – is a periodical, peer reviewed, scientific-methodical journal, issued by the SMC „Scientia Educologica“. It is an international journal, wherein the scientific and methodical articles published in Lithuanian and English languages. This journal is intended for the scholars, teachers/educators in general education schools, the lecturers of different levels of educational institutions and all, who are interested in the problems of education policy, management and quality.

Index Copernicus (ICTM Value): 97.94 (2021). Current Global Index of the Journal (CGIJ) OAJI: 0.201 (2022).

**ISSN 2029-1922** © Mokslinis metodinis centras „Scientia Educologica“, Lietuva /

Scientific Methodical Centre „Scientia Educologica“, Lithuania

Leidžiamas nuo 2009 metų du kartus per metus / Published since 2009 twice a year

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# UGDYMAS KAIP ATEITIES ŽMOGAUS KŪRIMAS: KELETAS ŠTRICHU

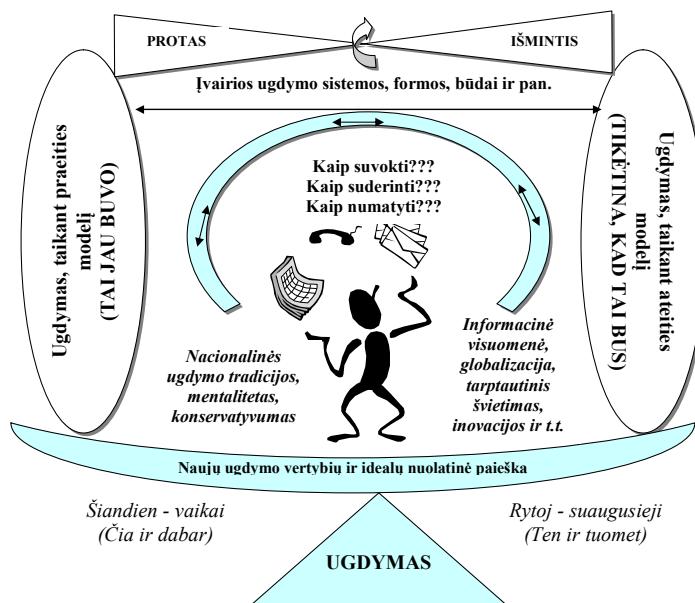
Vincentas Lamanauskas  
Vilniaus universitetas, Lietuva

Visuomenės informatizavimas / technologizavimas (informacijos ir technologijų bumas) sukelia esminius pokyčius ne tik komunikacijos srityje, bet ir lemia giluminius kultūros pokyčius – pažeidžiamas kultūrų balansas. „Žemutinė“ (masinė) kultūra pradeda dominuoti prieš „aukštutinę“ (elitinė) kultūrą. Ar tai reiškiasi ugdyme? Ar iš tiesų dekonstruktivizmo ir postmodernizmo koncepcijos lems ateities ugdymą? Tikriausiai, kad taip. Akivaizdu ir neišvengiama, kad ugdymo transformacija vyksta, veikiant naujoms technologijoms ir žmonių praktikai, kuri keičia visą socialinę tvarką.

Akivaizdu, kad apie ateities ugdymą, ateities mokyklą buvo kalbama ir diskutuojama nuolat. „Ateities mokykla turėtų būti taip sutvarkyta savo turiniu ir metodais, organizacinėmis formomis, kad visi ugdytiniai gautų vienodą išsilavinimą ir išsiauklėjimą. Tada jų brandos skirtumus lems tik individualios savybės, o ne mokyklų skirtumai, kurie yra reikalingi profesionalams rengti“ (Jovaiša, 1998). Prabėgus 25 metams mes ir toliau kalbame apie ateities mokyklą. Ar galima įsivaizduoti ateities mokyklą? Ar įmanoma visiems ugdytiniams suteikti vienodą išsilavinimą? Ar tai nepriestarauja bendrajai sisteminėi logikai (pvz., išsilavinė – beraščiai)? Ugdymas ateičiai sudėtingas konstruktas, apimantis fizinį, intelektualinį, asmenybinį, technologinį ugdymą ir kt. Tai daugialypis procesas, kuriame derinami skirtini požiūriai, skirtinės (kartais ir prieštarinės) metodologijos, sistemos, formos ir pan. (1 pav.) (Lamanauskas, 2004).

## 1 paveikslas

Ugdymas – ateities žmogaus kūrimas



Šiuolaikinės technologijos (ypač IRT srityje) dar labiau paspartins ugdymo transformacijas. Kalbant bendra prasme, dabartinės technologijos yra sąlyginai pigios, lengvai prieinamos. Dar daugiau, jos yra neutralios kultūrų skirtumams. Kita vertus, jų skvarbumas itin didelis, ką stebime jau šiandien. Jos gali greitai įsiskverbti į socialinius (įskaitant ugdymo) procesus ir atitinkamai jiems daryti įtaką. Tai savo ruožtu formuoja naujus reikalavimus švietimo / ugdymo sistemoms apskritai. Kaip pavyzdži galime minėti dirbtinį intelektą (AI). Tyrėjai pastebi (Ahmad ir kt. 2023), kad dirbtinis intelektas gali turėti didelęs teigiamos įtakos ugdymui. Tačiau nepaisant jo naudos, negalima ignoruoti susirūpinimą keliančių problemų, susijusių su sprendimų priėmimo praradimui, tinginyste ir saugumu. Jau dabar dirbtinio intelekto poveikis ugdymiu sulaukė nevienareikšmiškų reakcijų: vieni tai laiko pažangiu žingsniu, o kiti – nerimauna, kad dirbtinis intelektas gali sumažinti analitinius įgūdžius ir paskatinti netinkamą elgesį (Grassini, 2023). Galima sutikti, kad XXI amžiuje reikia atnaujinti švietimo tikslą suvokimą (Power, 2006), kuris atkurtų žmogaus vystymosi harmoniją, labiau pabrėžiant socialinius, kultūrinius ir moralinius ugdymo aspektus. Dabartinė ir ateities švietimo politika neabejotinai susijusi su globalizacija ir sparčiais pokyčiais visuomenėje, kurie yra tikra informacinė revoliucija, susijusi su informacinių komunikacinių technologijų plėtra ir jų naudojimu (Lamanauskas, 2008).

Visų pirma ateities ugdymas bus akivaizdžiai stratifikuotas, ir bus nulemtas prieigos galimybėmis. Vadinasi ugdymo (švietimo) sistema turės pasižymėti dvemis esminėmis savybėmis – mobilumu (gebėjimas greitai keistis) ir reaktyvumu (gebėjimas reaguoti į pokyčius).

Nepaneigiamas faktas jog egzistuoja savita švietimo rinka. Žinoma aksioma, kad parduoti rinkoje lengviausia „aukštą“ profesionalumą. Žinoma ir kita tiesa – mokytojai (neskaitant retų išimčių) seniai atprato savo edukacinę veiklą sutikrinti su ugdymo mokslu (atitinka ar neatitinka), t. y. verifikasi. Papildyti asmeninį teorinių žinių bagažą taip pat neskubama dėl įvairių priežasčių. Ką šiandieninėmis sąlygomis reiškia nekonkrentabilus mokytojas? Suprantama, kad čia galimi įvairūs momentai. Tai reiškia, kad yra mokytojų, kurie nepalaiko nuolatinio profesinio tobulėjimo, nėra nusiteikę naujovėms ir nesiekia jų įgyvendinti, ko rezultatas – negebėjimas prisitaikyti prie naujų iššukių švietimo srityje. Mokymo ir mokymosi poreikiams nuolat kintant, mokytojas lieka tose pačiose pozicijose. Dar daugiau, toks mokytojas nesiryžta bendradarbiauti su kitais mokytojais, yra pasyvus ir neimlus švietimo sistemos pokyčiams apskritai. Kita vertus, svarbu suprasti, kad tai gerokai subjektyvus dalykas, kuris vertinamas skirtingai priklausomai nuo vertintojų požiūrio. Kitaip sakant, tai, kas laikoma nekonkrentabilumu vienoje situacijoje, gali iš esmės skirtis kitoje situacijoje ar kontekste. Nepaisant to, mokytojas yra ir išliks pagrindine ir svarbiausia ugdymo proceso dalimi (Lamanauskas, 2013).

Ką daryti, jei mokytojas šiandien neatlaiko konkurencinės kovos švietimo rinkoje? Kokia prasmė skelbti, kad mokytojas yra ir bus prestižinė profesija? Klausimų daug, o atsakymų kaip visuomet stoka. Čia ir iškyla ta pati klasikinė balanso problema. Atrodytų, visi siekiame sukurti efektyvią, saugią, sveiką ir pan. mokymo(si) aplinką. Tačiau neturėtume pamiršti, kad visame kame egzistuoja balansas. Tai yra balansas tarp individualaus ir kolektyvinio (grupinio) mokymo(si), teorijos ir praktikos, vertinimo ir grįžtamojo ryšio, sociohumanitarinio ir gamtamokslinio ugdymo, automatizuoto (mašininio) mokymo(si) ir „gyvojo“ ugdymo ir t. t. Kaip pavyzdži galima paminėti dalykų balansą. Ugdymo programos turėtų būti sudarytos taip, kad būtų akcentuojamas bendrasis išsilavinimas, o ne dėmesys



telkiamas tik į tam tikras sritis – egzaminus (pvz., STEM). Turime galvoti apie humanitarinių, socialinių, gamtos ir technikos mokslų sričių žinių prasmingą sąryšį, o taip pat jų vaidmenį (dimensiją) formuojant visapusišką asmenybę (Aberšek, 2008). Svarbiausiu dalyku išlieka (turėtų likti) mokinų įvairių sričių gebėjimų plėtojimas, išskaitant kūrybinį, kritinį mąstymą, problemų sprendimą, adekvačią komunikaciją.

Svarbiausia yra suprasti, kad ugdymo balansas yra dinamiškas procesas, kurį reikia nuolat vertinti ir tobulinti, atsižvelgiant į nuolat besikeičiančius ugdymo(si) poreikius.

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## Summary

### EDUCATION AS CREATION OF A FUTURE HUMAN: A FEW LINES

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Informatization /technologization of society (information and technology boom) causes fundamental changes not only in the field of communication, but also conditions deep culture changes – culture balance is damaged. "Lower" (mass) culture begins to dominate over "higher" (elite) culture. Does this manifest itself in education? Will really the concepts of deconstructivism and postmodernism determine the future of education? Probably so. It is obvious and inevitable that the transformation of education takes place under the influence of new technologies and human practice, which changes the entire social order.

Can you imagine the school of the future? Is it possible to provide equal education to all students? Does this not contradict the general systemic logic (e.g., educated, but illiterate)? Education for the future is a complex construct that includes physical, intellectual, personal, technological education, etc. It is a multifaceted process that combines different approaches, different (sometimes contradictory) methodologies, systems, forms, etc.

First, the education of the future will be clearly stratified and will be determined by access possibilities. Thus, the educational system will have to distinguish itself by two essential characteristics – mobility (ability to change quickly) and reactivity (ability to react to changes).

What if a teacher is not able to cope with the competitive struggle in the education market today? What is the point of announcing that teaching is and will be a prestigious profession? There are many questions, but there is a lack of answers as usual. Here emerges the same classical balance problem. It seems that we all strive to create an efficient, safe, healthy, etc. teaching/learning environment. However, we should not forget that there is a balance in everything. It is a balance between individual and collective (group) teaching/learning, theory and practice, assessment and feedback, automated (machine) teaching/learning and “live” education, and so on. Subject balance can be mentioned as an example. Curricula should be designed to emphasise general education rather than focusing only on certain areas such as exams (e.g., STEM). The most important thing remains (should remain) the development of students’ abilities in various fields, including creative, critical thinking, problem-solving, and adequate communication.

*Received 20 September 2023; Accepted 22 November 2023*

Cite as: Lamanauskas, V. (2023). Ugdymas kaip ateities žmogaus kūrimas: keletas štrichų [Education as creation of a future human: A few lines]. *Švietimas: politika, vadyba, kokybė / Education Policy, Management and Quality*, 15(1), 4-7. <https://doi.org/10.48127/spvk-epmq/23.15.04>



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# EMPOWERING EDUCATORS TO TEACH ONLINE READING, LEARNING, AND COMPREHENSION SKILLS ON THE EXAMPLE OF ECOLOGICAL PROBLEMS

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## Abstract

Reading and learning are changing rapidly in today's world, and educational systems sometimes fail to keep pace. To define the needs related to reading in the modern world, the Stavanger Declaration was written, stating that students should be taught online reading and learning strategies. Educators must also adapt to this. As part of the Learning, Teaching, and Training (LTT) activities, participants (21 individuals from different levels of education) were introduced to the Internet reciprocal teaching (IRT) method. The basis of this research was to find out whether we can empower educators to teach online reading, learning, and comprehension skills in a short training session using the ubiquitous topic of ecological problems as an example. We were also interested in whether a short program that empowers educators to use IRT in their classroom can influence teachers to develop students' digital literacy in their pedagogical work. The results show that the ecological issue, with its timeliness and universal presence in our lives, is an appropriate topic for educators to teach digital literacy. The participants were successful in solving the set tasks, and all of them answered that they would use the IRT method in their future pedagogical work.

**Keywords:** digital literacy, ecological problems, internet reciprocal teaching method, problem-solving, teacher training

## Introduction

Teaching digital literacy is about how to better understand what we read online. The Stavanger Declaration (E-Read, 2019) indicates that teachers and other educators should teach students strategies that can help them read and learn online. However, teachers often do not have sufficient knowledge about how to teach students to read and learn online because they have not acquired this knowledge as part of their formal education. One of the methods for teaching students to read is the Internet Reciprocal Teaching (IRT) strategy developed by

Leu et al. (2015), which has been shown to be particularly effective in helping adolescents read online. The IRT strategy is appropriate for developing functional literacy in digital learning environments of older students (older than 9 years), while younger students were less successful or needed some adaptations (Kordigel Aberšek & Kerneža, 2022) because their computer skills are not yet sufficiently developed (Kerneža & Kordigel Aberšek, 2022).

The IRT strategy is based on the Reciprocal teaching method, in which the teacher explains the steps of the strategy and then models all the steps using “thinking aloud” method while the students observe them. Later, students are divided into small groups, with individual students in each group taking on the role of teacher (moderator). Students teach each other, and the teacher intervenes only when there is a misunderstanding between students (Palinscar & Brown, 1984). What Reciprocal Teaching and Internet Reciprocal Teaching have in the gradual transfer of responsibility from the teacher to the students and the collaboration and discussion between all participants (Castek et al., 2015). The IRT method and the Online Reading Comprehension Assessments, featured in ORCA Project (Leu et al., 2008), under which Leu and his researchers developed a model that empowers teachers to prepare students for communication in the 21<sup>st</sup> century in a way that students develop online research and comprehension skills, is a response to emerging new literacies (Leu et al., 2013; Leu et al., 2015) which require different ways of reading and learning, and different approaches that teachers use.

The IRT method is based on the transition from less complex to more complex reading tasks, i.e., from searching for information between two web pages, to reading within multiple web pages, to reading within a search engine, and later reading the entire Web, and finally to reading and writing online messages (Castek et al., 2015). It includes several key elements such as the use of online informational texts, the reading of unique texts students find online, the instruction in a classroom made up for students with different experiences with digital tools and online texts, the integration of both teacher and student modeling of online comprehension strategies, a focus on questioning, locating, critically evaluating synthesizing, and communicating strategies as important elements of online reading, and collaboration and discussion among all participants (Castek, 2017, p. 210). Students fly over the text online and identify key information and essential details based on the task and their classroom skills. They ask questions about the text based on what they have read, and then work as a group to interpret parts of the text, followed by a summary that includes the main ideas of the text. The text is then evaluated by relating what students have read online to their prior knowledge and experience (Castek et al., 2015).

### *Research Problem*

The Stavanger Declaration highlights the issue of the future of reading and points out that it will be necessary to find ways to enable in-depth reading even in a screen environment (E-Read, 2019). Ecological topics also require long and in-depth reading due to their complexity, which can be supported by the IRT method. The popularity of the topic has a significant impact on the amount of information available on the Internet, where much secondary and tertiary data can be found. These often distort the primary data, as they are used by various companies for commercial purposes. Also, the interpretation of the data is often inadequate, insufficient, and amateurish; much of the data is outdated, which means

that long and deep reading skills are required for successful reading and learning about ecological issues. Even adult, more experienced readers often cannot navigate the mass of information, and this is especially true for younger students (Legvart et al., 2021; Legvart et al., 2022).

The theme of ecological problems was chosen because of its topicality and its wide presence in our lives. From the perspective of construction-level theory, environmental problems are abstract and distant, but we are paying more and more attention to them so that they become actual and concrete (Trope & Liberman, 2010). The search for information about ecological issues is not only an end in itself, but it gives the information seeker a broader meaning and complement to the knowledge that is (supposedly) personally important to him, as it also affects his existence and quality of life.

### *Research Focus*

The main aim of the research program was to obtain data on whether the ubiquitous topic of the environment is appropriate for enabling educators to teach online reading, learning, and comprehension skills (elements of digital literacy), and whether we can influence teachers to use the IRT method in their pedagogical work.

## **Research Methodology**

### *General Background*

In May 2022, participants in the Learning, Teaching, and Training (LTT) activities were introduced to the IRT method for the first time. The opinion of the participants, most of whom were teachers at different levels of education, was studied in terms of the usefulness of the presented method in the pedagogical process. A topical issue was chosen for the study, which is omnipresent in our lives due to its topicality: ecological problems. The IRT method was presented in the context of problem-based learning using ecological problems as an example. Participants in the LTT activities addressed major current environmental problems such as pollution, global warming, overpopulation, waste disposal, ocean acidification, biodiversity loss, deforestation, ozone layer depletion, acid rain, and public health issues.

### *Sample*

The convenience sample includes 21 participants (100.0 %) who attended the LTT activities, most of whom are educators (90.5 %) teaching at different levels of education. 9.5 % of the participants are representatives of an association for supporting and developing activities and promoting active participation of citizens at different levels and in different areas of social life. Most of the participants were from Turkey (81.0 %), where the training was conducted, and the remaining participants were from Slovakia (9.5 %) and Slovenia (9.5 %). The participants of the training did not know the IRT method before the training (100.0 %). The study was conducted in accordance with the research standards and ethics of the Institute of Contemporary Technology, Faculty of Natural Science and Mathematics, University of Maribor (FNM\_ICT) and approved by the Ethical Commission for studies involving humans (1\_2022).

### *Instruments and Procedures*

Prior to the presentation of the IRT method, and before reading and searching on the Internet, a brainstorming session was conducted on the [Mentimeter.com](https://www.mentimeter.com) website in which participants answered two questions, writing down up to three keywords for each question:

- What do you think are the environmental problems?
- Who/what pollutes the environment the most?

These initial questions were used to refresh the participants' foreign language vocabulary (the activities were conducted in English, which is a foreign language for all of them) and also to check whether the educators, who come from different levels of education, have sufficient knowledge to carry out the planned activities and explore the questions asked. In this way, the participants' prior knowledge was also activated as part of reading and learning strategies.

**Figure 1**

*Perception of Environmental Problems by Participants of the LTT Meeting*



*Source:* Research on [Mentimeter.com](https://www.mentimeter.com)

The results show (Figure 1) that the participants of the LTT meeting have sufficient vocabulary and knowledge to explore the field of ecological problems and to continue the established activities. The participants believe that the biggest environmental problem is pollution, followed by reasons such as acid rain, green energy, cars, concreting, diesel cars, overconsumption, reduction of material use, selection of waste, unconscious placement, and waste.

In order to make a final decision about the planned activities, participants were also asked who or what they thought polluted the environment the most (Figure 2).

**Figure 2**

*Perceived Major Contributors to Environmental Pollution by LTT Participants*



Source: Research on Mentimeter.com

LTT participants believe that humans pollute the environment the most, which is indirectly confirmed by the other responses. To a greater extent, participants mentioned industry, farming, and airplanes, followed by sports cars, plastics, fossil fuels, unconsciousness, home (households), and transport. Responses to the second question also indicate a reasonable level of vocabulary consistent with online research on ecological issues.

A presentation of the IRT method followed, where participants learned about the theoretical starting points, which were further supported by practical examples and a demonstration for which the terms ecological footprint and green energy were chosen.

Participants were then asked two questions, the answers to which they had to find on the Internet following the steps and principles of the IRT method. They explored how big their country's ecological footprint was and tried to find out what contributed the most to it. The environmental topics were then linked to problem-based online learning. Later, participants examined how much green energy their countries produced and how successful their countries were in this area.

Participants searched for answers to the following questions using the IRT method:

- How big is your country's environmental footprint and what contributes the most to it?
- How much green energy does your country produce? How successful is your country?

After the training, participants were asked in the form of an anonymous survey whether they would include the presented IRT method in their classes in the future.

The validity, reliability, and objectivity of the questions and tasks asked were monitored and evaluated throughout the study.

### *Data Analysis*

The study was based on a descriptive and causal non-experimental method of educational research. The data obtained were analyzed in different ways. The data obtained through brainstorming is interpreted qualitatively. The collected data that the participants had researched online were reviewed by the education provider and an expert in the field of environmental issues. The analysis and interpretation of the data obtained are based on the relevance of the information obtained online using the IRT method. The data are compared in terms of frequency distribution. The final question, whether the participants of the training will use the IRT method in their teaching in the future, was analyzed using the frequency distribution.

### **Research Results**

Responses and the proportion of relevant responses to the question of how large the ecological footprint of their country is are shown in Table 1.

**Table 1**  
*Overview of National Ecological Footprint and Key Contributors by Country*

Country	Participants (f)	The share of relevant answers (f %)	Ecological footprint per inhabitant in 2020 [gha]	Biggest contributors
Slovakia	2	100.0	4.7	Industrial processes and product use, transport
Slovenia	2	100.0	5.4	Buildings, transport
Turkey	17	100.0	3.3	Energy consumption, industrial enterprises

On the Internet, we can find many answers to the question posed. Some are outdated, others explain other aspects of the ecological footprint. Using the IRT method, the training participants found a suitable answer to the question of how big the national ecological footprint is, and they also found suitable answers to the question of what contributes most to the size of the ecological footprint of their country (Table 1).

Training participants also researched how much green energy their country produced and how successful their country was in the variety of websites and information on the Internet (Table 2).

**Table 2**

*Distribution of Responses Regarding the Ecological Footprint Size and Main Contributors by Country*

Country	Participants (f)	The share of relevant answers (f %)	Renewable source of energy [%]	Successfulness
Slovakia	2	100.0	26	Somewhat successful
Slovenia	2	100.0	33	Somewhat successful
Turkey	17	100.0	43	Successful

The results (Table 2) show that the IRT method was successful in finding answers, because all of the participants' answers were appropriate, and they also managed to interpret the results from the perspective of their country's performance in producing green energy.

After the practical test of the IRT method, the training participants also answered the question of whether they would use the presented method in their educational work (Table 3).

**Table 3**

*Intentions to Incorporate the IRT Method in Future Educational Work*

Participants	Yes		No	
	f	f%	f	f%
Inclusion of the IRT method in future teaching	21	100.0	0	0.0

The participants of the training agreed that they will use the IRT method in their pedagogical work in the future.

## Discussion

It has been shown that the IRT method can be successfully applied in the field of reading and learning about environmental problems and green energy. The focus of the research was to explore the IRT method for the purpose of researching the topic of ecological problems in order to enable educators to use the IRT method in their educational work. The research was aimed at educators, since they are the addressees of the method. The results show that the IRT method supports reading, learning, and comprehension in the information overload that individuals find themselves in when searching for data about ecological footprint and green energy. Participants in the LTT activities were successful in finding data for their country, and after the training, all indicated that they would use the method in their work.

Leu et al. (2015) developed the IRT method with the goal of helping adolescents read online in a way that allows them to select genuine and authentic information from the multitude of information offered by the World Wide Web. In the current study, the topic of ecological problems was researched by adults, and it was found that sometimes even adults do not have sufficient skills to select relevant information from the Internet. The majority of

participants have not (yet) thought about the search methods and procedures they use when searching for information and reading on the Internet. The method seems to be necessary and effective not only for young readers, but also gives adults a tool to select the data they find on the Internet. Collaboration and discussion among participants proved to be particularly important elements of the study, highlighted by Castek et al. (2015), which was even more detailed and in-depth, as participants showed great interest in the topic discussed (not only related to the topic of ecological footprint and green energy), with the personal significance of the chosen research topic also proving to be particularly important and a key element of motivation for information search. The goal, of course, was not to teach adults the basic skills of online information search, but to familiarize them with a method they could use in their classes. It turned out that even if the adults saw it differently, they had not yet mastered all the skills – not only more complex skills, but also basic skills and, of course, more complex reading tasks. By using the IRT method, they themselves recognized their knowledge gaps, which they also accepted after the theoretical presentation and practical application.

## **Conclusions**

The main aim of the study was to determine if we can empower educators to teach online reading, learning, and comprehension skills using ecological problems as examples, which the results of the study confirm. However, it is necessary to highlight two other findings. The personal relevance of the topic discussed has been shown to be important, especially for the purpose of the discussion, and the research also shows that even experienced adults do not have some basic and complex knowledge and skills that they should have for successful reading and learning online. This is especially important when we talk about educators who are supposed to teach and train students in the use of knowledge and skills that they themselves do not (yet) possess, which points to the need to train educators in the area of these skills.

## **Acknowledgments**

The authors want to thank the research program P5-0433; Digital Restructuring of Deficit Occupations for Society 5.0 (Industry 4.0). The research program is financed by the Slovenian Research Agency (ARRS).

## **Declaration of Interest**

The authors declare no competing interest.

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Received 04 February 2023; Accepted 20 November 2023

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Cite as: Kerneža, M., Kordigel Aberšek, M., Sari, H., Kılıç, M., Öztürk, E., Aberšek, B., & Zemljak, D. (2023). Empowering educators to teach online reading, learning, and comprehension skills on the example of ecological problems. *Švietimas: politika, vadyba, kokybė / Education Policy, Management and Quality*, 15(1), 08-17. <https://doi.org/10.48127/spvk-epmq/23.15.08>

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## TEACHER ACTIVITIES AGAINST VICTIMIZATION IN SCHOOL

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### Abstract

*Conflicts are encountered on a daily basis and are a common, inevitable part of life and part of human nature. Conflicts occur between people of all ages, i.e., between adults, between adults and children, and between children. The very realization of their existence, and the fact that we are thinking and talking about conflicts is an important way of providing strategies to resolve them. There are many ways to resolve conflicts; some prove to be successful, and others not; however, there is no single, correct or universal recipe for conflict resolution. There are just different paths, which we keep rediscovering over and over again. The same goes for resolving conflicts in school, which is why it is very important that an appropriate climate is created in the school, which promotes positive values. At the same time, it is important that both teachers and students are trained in (potential) conflict resolution. This research focuses mainly on the perception of real and potential conflicts and indicates possible solutions, which were created as part of the international Erasmus + project Mediators and Peacemakers Against Peer Victimization – MEPEV<sup>1</sup>.*

**Keywords:** conflict resolution, conflict situations, mediation and peacemaking, mediation in school

### Introduction

Because conflicts are a constant problem in our lives, it is important that we learn at an early age to resolve them peacefully and deal with the problems we encounter. Since conflicts are inevitable, even necessary for human development and progress, it makes no sense to think about how to create a conflict-free world. Instead, we need to consider how to teach children to cope with various problems at a very early stage in their life. One of the ways to resolve conflicts that arise in the school environment peacefully is peer mediation, which is discussed in more detail later on (Johnson & Johnson, 1991; Bandura, 1977; EURIDICE, 2011).

Although conflicts, which are, as emphasized above, an integral and inevitable part of our lives, most often cause negative feelings in the people involved, they are much needed for human development. Through conflicts, people learn about different views of the world

1 <http://mepev.org/index.php?lang=eng>

and how to cooperate (i.e., work together). Responses to a conflict situation can be divided into functional and non-functional, depending on whether they are focused on mutual conflict resolution and interpersonal cooperation or whether it is simply a quarrel aimed not at resolving but at showing anger. There is a widespread view that conflicts are to blame for disagreements, quarrels, divorces, social unrest, and violence. In reality, the reason for this is the inability to resolve conflicts in a constructive way, pointing out that a certain amount of frustration is required between a child and an educator for the sake of the child's normal development. At the same time, the child is dealing with an opposition – a conflict between two needs, the need for security and the need for freedom. Through this kind of conflict, the child progresses to a higher level of moral development. This is considered an ideal educational situation in which children can learn a lot because emotions are involved. What matters, then, is how one deals with the conflict and not the outcome of the conflict situation. Every conflict can contribute to our personal and social growth if we know how to resolve it constructively (Johnson & Johnson, 1991; Cremin, 2007).

Each conflict is, at the same time, different and similar. They are different because no conflicts are identical, and similar because there are common and recognizable patterns in all conflicts. These patterns can be described in different ways. A popular way of doing this is by means of the so-called “conflict staircase” model. This model outlines the basic and typical course of a conflict: what happens between people when a conflict runs off track. The model is commonly used in literature on conflict resolution. It consists of seven steps:

- *disagreement* (there is a disagreement about something which leads to discomfort);
- *personalizing the problem* (it is the other's fault; the other is stupid, and the other is the problem);
- *escalation* (more problems occur, and old issues are brought into the conflict; at this level conflict is a reality);
- *forming alliances* (each part of the conflict gathers around and seeks alliances among friends. Each part talks about rather than with the other. At this level dialogue is usually abandoned, there is no communication between the conflicting parts, instead, there may be taken actions);
- *enemy imaging* (the counterpart is described in negative ways (often as a non-human being: an animal or a monster); at this stage, the parts often focus on how they have been and feel offended);
- *open hostility* (now there is one aim which is to hurt the counterpart. If anybody tries to use diplomacy or tone down the conflict, he/she will be looked upon as a traitor);
- *separation or fight* (the viewpoint at this stage is that there is not enough space for both of us in the same territory. A physical separation, maybe even by violent means such as war, is necessary (Johnson & Johnson, 1991; Cremin, 2007; Milivojević, 2011)).

### *Conflict Resolution Processes*

When talking about conflict resolution, we have to take into account that each person tends to respond to conflict with a particular style that is more or less predominant; each style shows different behaviours. In order to describe the styles, we should take into account

two main aspects: the goal each party has and the relationship between parties. Depending on what is more important for the person, either the goal or the relationship, both or none, he will show one of these most common styles (Scott, 2005):

- *Avoidance*: it is the non-negotiation of one's position. This strategy implies that the worry about the relationship and the goals is low, so the person avoids conflict, which means he denies that conflict exists. This position could be characterized by "I lose – You lose".
- *Accommodation*: Here, the relationship is very important, and the worry about the goal is low. The person does not want to spoil the relationship and prefers to compromise. It is another way of avoiding conflict. This is the position "I lose – You win".
- *Competition*: The result is the most important aspect. A person that follows this strategy sees conflict as "one is wrong and the other one is right". It is the typical "I win – You lose".
- *Solution*: With this strategy both aspects are important: keeping the relationship and reaching goals for both parties. They both try to reach the best result as possible for all. They are not focused on who is right/wrong but on trying to find a satisfactory solution for both parties. It is the position "I win – You win".

The most common conflict resolution intervention processes at schools are peer tutoring, mediation, and negotiation. All three are described briefly below (Noaks, & Noaks, 2009, Schrumpf, Crawford & Bodine, 1997).

*Peer tutoring* has its origin in the United Kingdom schools. It is based on the creation of a corpus within the school where communication and negotiation of conflicts are promoted. The main aspect is the creation and training of a group of students/pupils that are able to listen and accompany those peers who have a conflict to solve.

*Mediation* is a voluntary process, and it is necessary when the parties involved in the conflict are not able to solve it alone. The third party is an impartial expert and tries to help the parties to find the best solution as possible. The impartial party doesn't give a solution; it only tries to make the parties find it themselves.

*Negotiation* is a process that allows parties to solve a conflict from a win-win perspective. The difference in comparison to mediation is that here there is no third party. Both parties involved in the conflict collaborate in the process following different guidelines: identification of needs and interests, keeping respectful communication, looking for many possible solutions, choosing the best solution for both, and making a plan of action to decide who does what and when.

It is important to note that there are some conflicts that cannot have an immediate solution, or maybe they will never disappear, so we should try to learn how to live with conflicts. But there are many others, fortunately, that we think can be solved. Conflict can be considered as an unavoidable aspect of social relationships, and it is not negative itself. The difficulty is that any conflict can adopt a constructive or a destructive way. The point, therefore, is not to eliminate or prevent conflict but to confront conflict in a positive way. The idea should be not to look for winners or losers but to build a culture based on collaboration and agreement (MEPEV, 2020; Cremin, 2007; Evertson & Weinstein, 2013).

### *Dealing with the Emotional Aspects of Conflict*

It is necessary to evoke positive emotions to resolve conflicts and improve relationships. When it comes to coping with conflicts, most people ignore or suppress most of the emotions. However, no matter how much people try to stay insensitive, their hearts tend to beat faster during a conflict, their palms sweat, and their breathing quickens. All these physical signs indicate underlying emotions that can complicate the discussion (IREX; 2013).

Conflicts can be resolved more successfully when mind and emotion are taken into account. The challenge is to learn how to effectively cope with a lot of positive and negative emotions (excitement, fear, pride, shame, hope, despair, joy, disappointment) without being overwhelmed.

- *Focus on basic concerns.*

Focus on basic concerns rather than feelings. These concerns represent basic human desires that underlie both negative and positive emotions in any conflict.

- *Appreciation*

It is the most important basic aspect to keep in mind in case of any conflict. It includes the desire to be appreciated, understood, and valued. Expressing appreciation involves finding value in another person's perspective.

- *Correlating*

The hostile "me against you" tendency in a conflict can be balanced by forming an emotional bond so that enemies become allies. They cooperate to solve a problem. Building commitment requires approaching significant differences as shared problems to be resolved together. Even if the issues that divide people are controversial and heated, collaborative problem solving can be helpful. Simple techniques can also help to build commitment. Examples include having small conversations about common interests such as sports, music, and careers, using the pronouns "we" and "we" to convey a sense of common purpose, and sitting side by side, not opposite a table. These strategies encourage collaboration.

- *Autonomy*

Conflicts often arise when people feel that they are not sufficiently involved in a decision that directly affects them. Always consult before deciding, so that people are actively involved in the decision-making process when the outcome affects them in any way.

- *Status*

In a conflict, opposing parts can compete for position or expertise. One might say, "I have more experience in this area", or use body language, which denotes a superior status. Not surprisingly, this can make the other person feel small or angry. However, status can also be used positively. One person can start a discussion by asking the other for advice. This does not reduce the status of the first person but allows the other person to express a point of view and share his/her expertise.

- *Role*

People play many roles in their life. A person can be a student, a son, or a brother. But when it comes to resolving a conflict, the roles people play tend to be temporary. They act as listeners, mediators, or defenders in a variety of ways. The challenge

is to determine which role is most suitable in specific cases. In some cases, one party may need to adjust roles to resolve a conflict. For example, a friend wants to discuss a frustrating situation when he comes to school. Someone intervenes (as a friend) and provides advice on how to solve the problem. The advice may be good, but the friend gets angry and scolds him for interrupting. He wanted the other person to listen to him because he could not speak freely outside. So, the friend's most productive role is not as a defender, but as a listener. Other times, both parties may take on different temporary roles or even take the same role more than once to solve a problem. Examples of such helpful temporary roles include the common problem solver, brainstorm, devil's advocate, or mediator Cremin, 2007; Evertson & Weinstein, 2013).

### *What is Mediation?*

Mediation is a form of conflict resolution and is as old as humankind, with roots in many cultures and world religions. Today, it is practised widely across the world as a traditional non-confrontational method of conflict resolution. Its current popularity began in the 1970s in the USA, from where it has extended into other parts of the world, including Europe. Mediation is used extensively within the legal profession, as well as in a range of other areas, including community mediation, environmental mediation, peer mediation in schools, family mediation, workplace mediation and intergroup conflict mediation. The neutral, facilitative, informal, and voluntary nature of mediation is what sets it apart as a specific process of dispute resolution. These are also the elements that give it the power to transform conflict and human relationships (Cremin, 2007). The four fundamental principles of mediation are:

#### *1. Voluntary participation*

This means that either party can choose to stop mediation at any time, and both parties must be willing and open to mediate. It offers control over the situation, safe in the knowledge that mediation can be stopped or paused at any time.

#### *2. Impartiality*

The mediator is there for both parties and is not there to take sides or give advice. The mediator is a neutral third party who is specially trained in facilitating and encouraging discussions between parties to assist in reaching an agreement outside of the Court.

#### *3. Confidentiality*

The information you share with the mediator and discussions you have during mediation are kept private. If parties try to reach an agreement during mediation, but it does not work, the Court will not be informed of any former proposals discussed during mediation (with some limited exemptions, for example, on considering costs, by agreement and children issues).

#### *4. Involved parties control the outcome*

Any agreement or decision reached is done so within the parties' own terms. Mediators do not make any decisions. Any decision reached is not legally enforceable unless you instruct lawyers to make your agreement legally binding.

### *Peer Mediation*

In peer mediation, a trained youth acts as a neutral mediator helping parties in conflict to understand the root causes of their dispute and to ultimately agree on a plan for resolving the

conflict (Cowie & Wallace, 2000). The greatest advantage of peer mediation training is the ability of trained youth to transfer mediation skills to a variety of settings, including family and neighbourhood conflicts, helping youth to become better problem-solvers and more responsible citizens. Research supports the finding that a sense of belonging is a very important factor in preventing violence in schools. Suspension or expulsion can push students further away from their learning communities whereas a school peer mediation program promotes critical thinking and builds decision-making skills, develops healthy standards of relationship within the school community and supports student self-determination. The role of the mediator in the mediation can be described as follows: the mediator does not rule who is right and who is wrong and does not make a binding decision. A mediator is not a judge but is a trusted, neutral professional. With special mediation techniques, he or she helps establish effective communication to better illuminate the background of the dispute, takes the interests of all clients into consideration, and helps find a fair, mutually acceptable resolution to the problem (Cremin, 2007; Evertson, & Weinstein, 2013).

### *Research Focus*

This research focused on how teachers react to conflict situations between children in the classroom, who they involve in conflict resolution, and what procedures they use to resolve the conflict. It also examined the extent to which teachers are willing to deal with conflict on their own, and what teachers do to reduce the number of conflicts in the classroom (how important are positive attitudes in conflict resolution, and how much the group (class, department) invests in developing positive values in the students). Based on this, two research questions were formed:

1. What do teachers do in order to minimise the number of conflicts in the classroom?
2. What are the teachers' suggestions for a more effective process of conflict resolution?

## **Research Methodology**

### *General Background*

An e-survey on ways of resolving conflicts was sent to two institutions: the Muta Primary School and the Slovenj Gradec Primary School. The objective was to find out how teachers react to conflict situations between children, who they involve in conflict resolution, and what procedures they use to resolve conflict. In addition, the objective was to determine the extent to which they are willing to deal with conflict on their own, and what they are doing to reduce the number of conflicts in the classrooms.



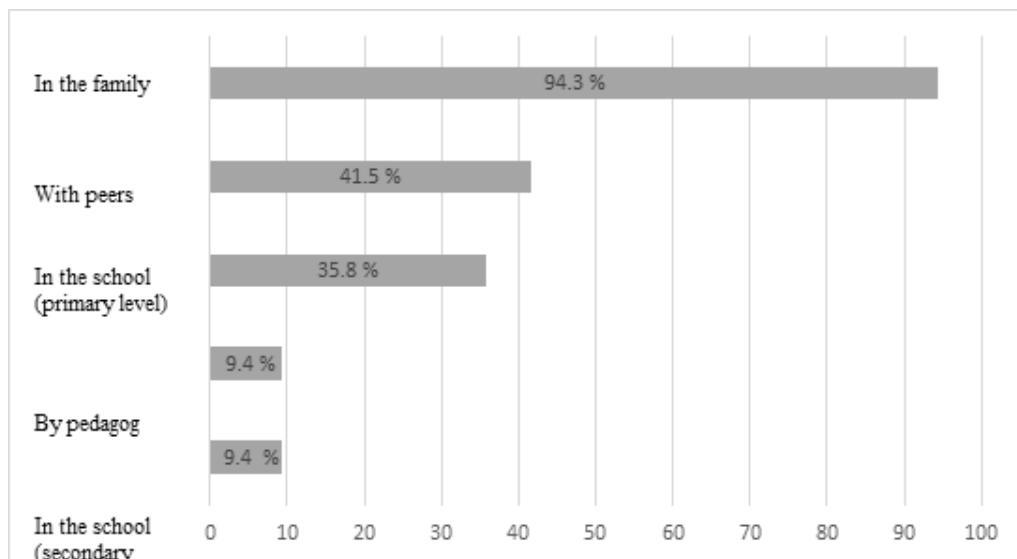
### Research Sample

The study included 53 Slovenian teachers from the Carinthia region ( $N=53$ ) aged 30 to 51 or more. Three teachers were under 30 years old, 10 teachers were 31 to 40 years old, 19 teachers were 41 to 50 years old, and 21 teachers were 51 and older. According to the triad, however, there were 20 teachers teaching in the I. triad and 8 teachers teaching in the II. triad (primary level), and 25 teachers teaching in III. triads (secondary level). We selected the teachers at random and sent them an electronic questionnaire, which they solved.

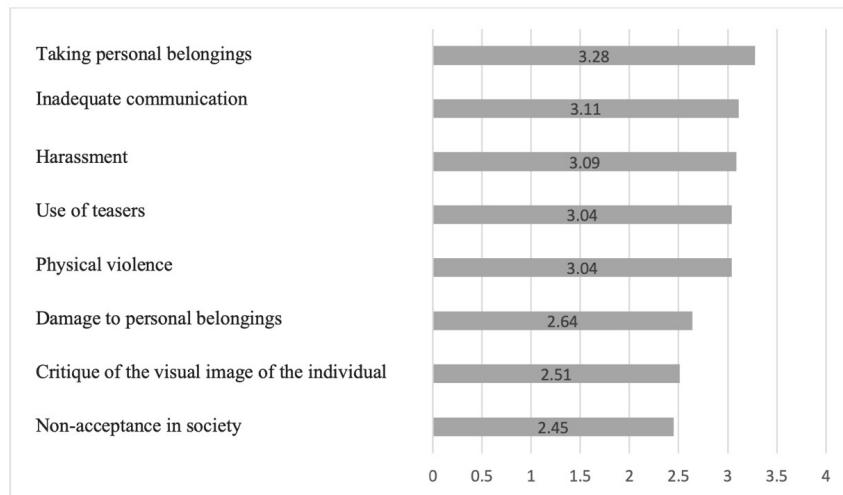
### Research Results

Teachers were asked where they believe children get their first experience in conflict resolution. According to the teachers' opinion, children gain conflict resolution experience in the family (at home), while playing with their peers, and in kindergartens. Children gain the least experience in conflict resolution in schools, according to the teachers (Figure 1).

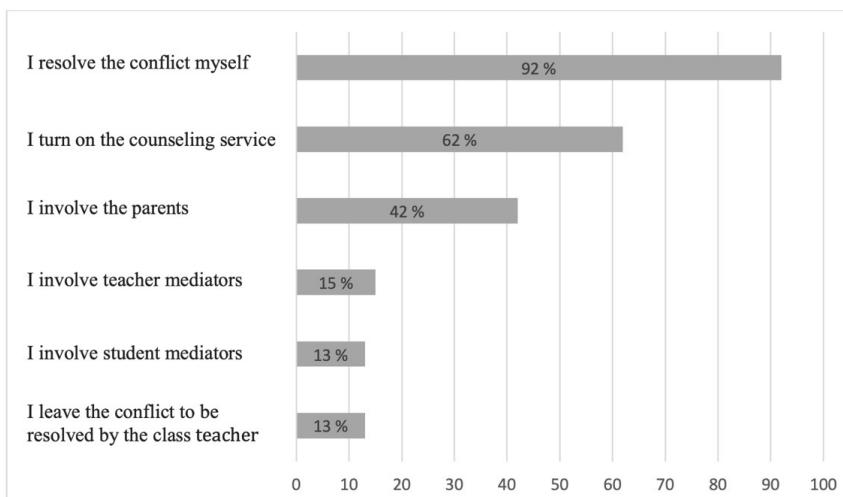
**Figure 1**  
*Teachers' Opinions on Where Children Gain their First Experience in Conflict Resolution*



Teachers were then asked about the kind of situations in which children most often enter conflict. It was established that children most often enter conflicts on account of someone taking the other's belongings, because of inappropriate, offensive or disrespectful communication, and because of physical violence and teasing (Figure 2).

**Figure 2***Teachers' Opinions about the Kind of Situations in Which Children Most Often Enter Conflict*

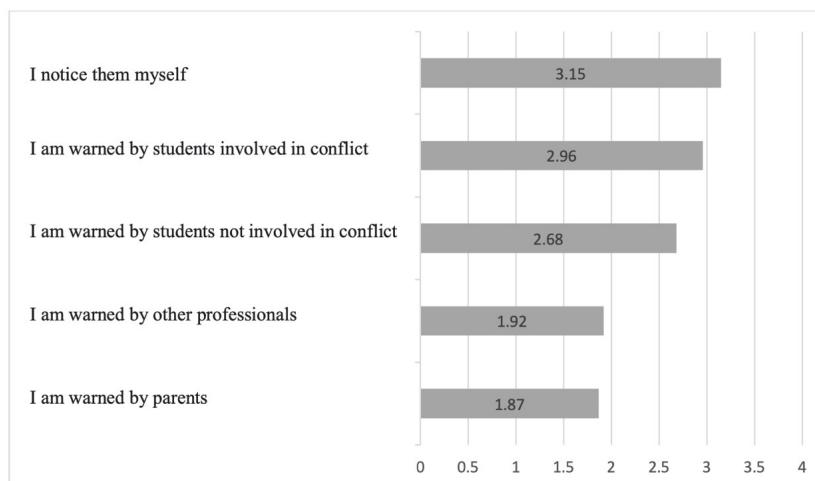
Teachers were asked who they most often involve in conflict resolution. As many as 92 % of teachers answered that they resolved the conflict on their own. In the event that teachers are unable to resolve the conflict on their own, they include a counselling service (62 %). 42 % of teachers involve parents in conflict resolution. However, only 28 % involve a teacher or student mediator (Figure 3).

**Figure 3***Teachers' Opinions on the Most Common Way of Reacting upon Noticing a Conflict Situation*



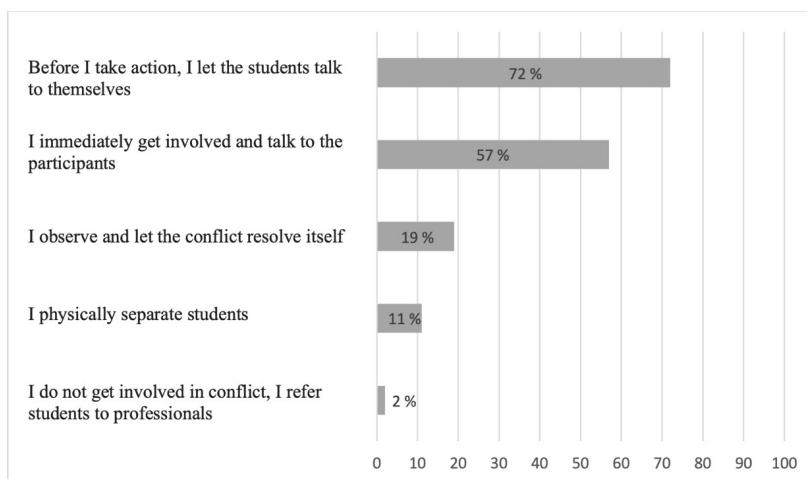
Teachers perceive classroom conflicts on their own ( $X= 3.15$ ), or they are notified by children who are involved in conflict situations ( $X = 2.96$ ), or they are notified by children who are not involved in conflict situations ( $X= 2.68$ ) (Figure 4).

**Figure 4**  
*Teachers' Opinions on How they Perceive Conflict in the Classroom*



Once teachers notice a conflict situation, they first wait for the students to talk and then approach themselves (72 %). 57 % of teachers get involved immediately and talk to whoever is involved. 2 % of teachers calmly observe the conflict and let the situation resolve itself (Figure 5).

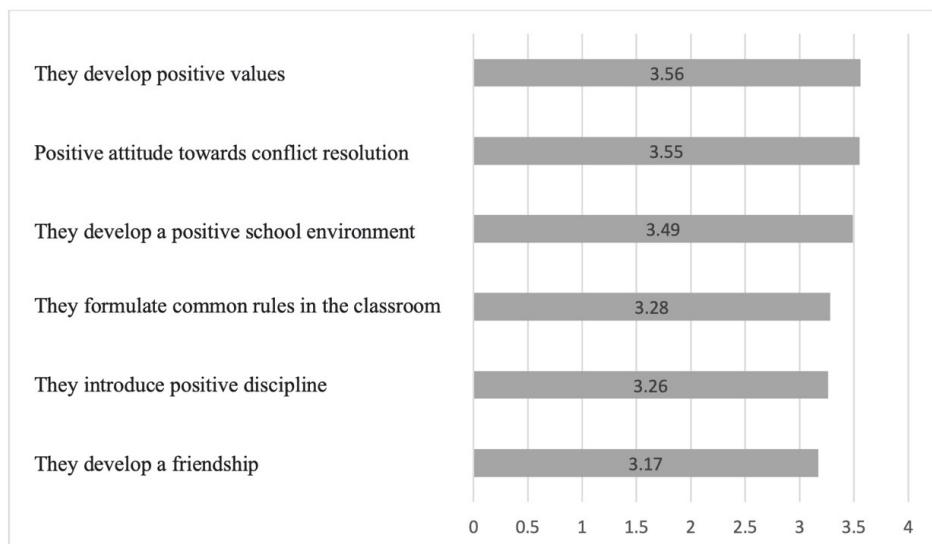
**Figure 5**  
*Teachers' Opinions on How they React upon Noticing a Conflict Situation*



Developing positive values ( $X= 3.56$ ) and fostering a positive attitude toward conflict resolution ( $X= 3.55$ ) help to reduce conflicts in school. Other factors that contribute to the reduction of the number of conflicts include: a supportive school environment, common rules in the classroom, and talking about friendship and the introduction of positive discipline (Figure 6).

**Figure 6**

*Teachers' Opinions about What Reduces the Number of Conflicts*



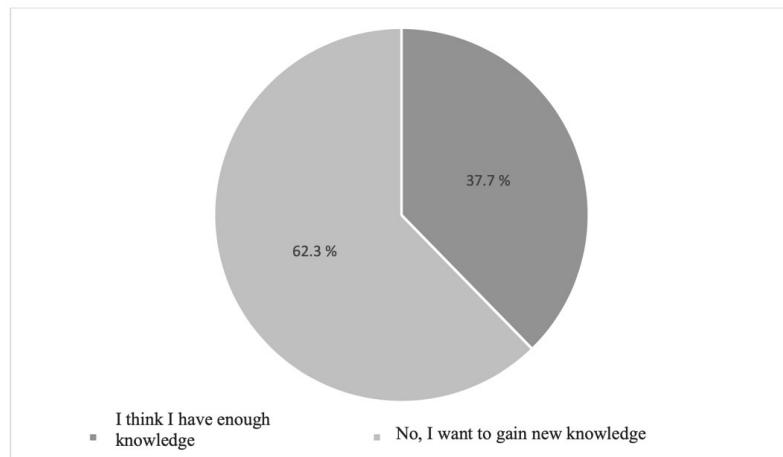
When teachers resolve a conflict, they discuss it with individuals or at the level of the whole classroom/department, or they inform the parents and a counselling service about the conflict. In the event of damage caused, students undergo restitution or teachers issue an official reprimand for them.

Teachers were asked to write down what they did in the school year 2020/2021 to reduce the number of conflicts in the classroom. Most teachers reported that they talked to the students, that they urged the students to develop a positive climate, and that they held thematic classes on the topic of friendship and mutual respect.

62.3 % of teachers reported that they were not competent in resolving conflicts. Only 37.7 % said that they had enough knowledge to resolve conflicts (Figure 7).

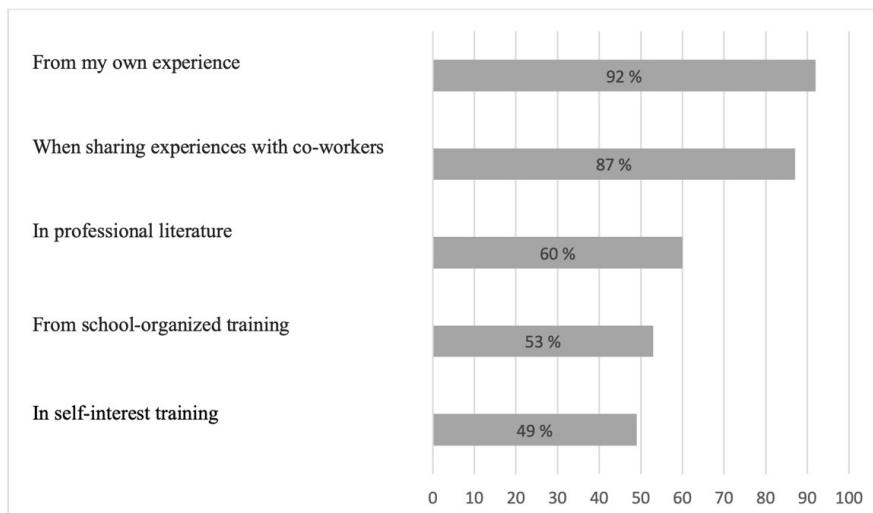


**Figure 7**  
*Teachers' Opinions about Their Competence in Resolving Conflict*



92 % of teachers reported that they gained the knowledge (strategies) for conflict resolution from their own experience. 87 % acquired the knowledge for conflict resolution through the exchange of opinions and experiences with their colleagues. 60 % acquired this kind of knowledge from specialist literature. The lowest share of teachers gained this kind of experience through specific trainings which they selected themselves, or to which they had been assigned by their institution (employer) (53 %) (Figure 8).

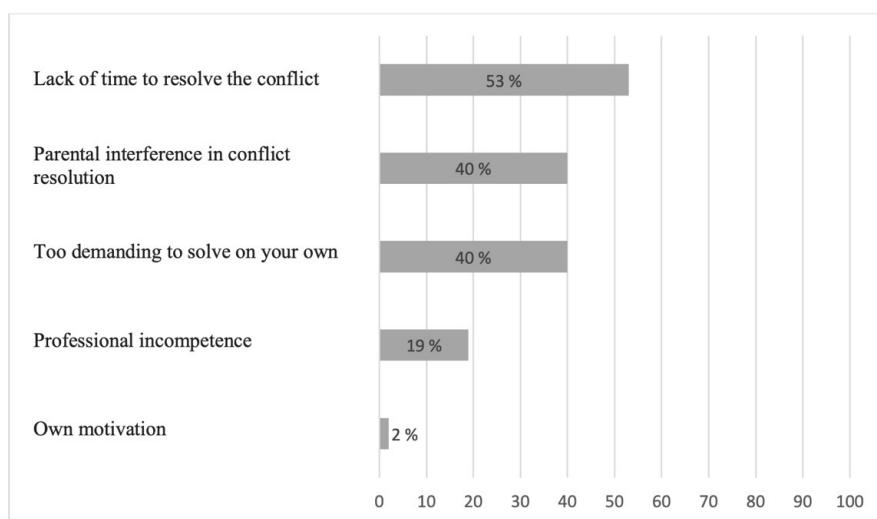
**Figure 8**  
*Teachers' Opinions on Where They Acquired Knowledge of Conflict Resolution Strategies*



Teachers were then asked about what kind of problems they encountered in resolving conflicts. 53 % of teachers reported lacking time to resolve the conflict. 40 % felt that the conflict was too complex (difficult) for them to resolve on their own. Some teachers reported the students' parents intervening in conflict resolution, and some reported that they did not feel competent enough to resolve conflicts (Figure 9).

**Figure 9**

*Teachers' Opinions about What Kind of Problems they Encounter in Resolving Conflicts*



## Discussion

Primary and lower secondary school teachers are aware that the school is an important institution where children not only acquire new knowledge but also gain experience on how to live in a community, which includes dealing with others' complaints, compromising, arriving to agreements, coordinating opinions, and resolving conflicts.

The survey conducted as part of this research analysed the teachers' opinions regarding what they would like to change in the process of conflict resolution. It was established that better collaboration with the school counselling services, immediate resolution of conflicts and less parent interference in school events would be necessary in order to achieve this. According to the teachers, conflicts would need to be resolved as soon as they occur. The problem is, however, that during the short breaks in between lessons, teachers are unable to resolve the conflict, which then continues. Regarding this, teachers emphasize the need for immediate involvement of the school counselling services and resolving conflicts in the shortest possible time. They also emphasize that resolving conflicts requires a positive attitude of all everyone involved, and, of course, the ability to compromise. All teachers are aware that parents generally tend to intervene in school events, which may interfere with successful conflict resolution. Parents take the side of their child and defend his/her interests. In such cases, the teacher must act as a mediator between the parents, instead

of acting as a mediator for the students. Teachers pointed out that they wish to see less interference on behalf of parents.

The results of the questionnaire as part of this research showed that teachers strive to minimize the number of conflicts. Teachers also provided constructive suggestions on what else could be done to resolve conflicts faster and more efficiently. In addition, the results of this research showed that teachers are motivated to learn more theoretical and practical knowledge on conflict resolution and to exchange experiences both at the institutional and wider regional level. Teachers emphasized that they would like to have more practical training in the field of peer mediation and communication. These issues were dealt with in the Erasmus+ project *Mediators and Peacemakers against Peer Victimization (MEPEV)*, which has designed a set of educational materials (trainings) precisely for this purpose, both for teachers and students.

## Conclusions

Life without conflicts would be boring. Conflicts bring diversity to our lives. Conflict awareness is a path to providing strategies for their resolution. Conflicts allow us to grow personally, gain new experiences and thus enrich and deepen our relationships with others. There is no simple recipe for conflict resolution because every situation is specific and requires a different kind of approach and strategy. This is why the perspectives of individuals and the exchange of good practice examples are valuable experiences, which should be used as a foundation for an efficient implementation of conflict resolution in practice. The ability of educators (teachers) to identify situations that provoke conflict often helps them to prevent conflicts, especially with students of the youngest age, as this can often prevent physical injuries. Introducing mediation skills to both children and adults is very helpful in various discussions and, in general, in resolving conflicts. In modern times, peer mediation is becoming more and more established, as an alternative to violent confrontation in the school space. In recognizing conflicts, it is important to allow each individual involved to present the situation from their own perspective.

The basic task of schools is not to prevent all conflicts but to teach children how to respond to them. Grown-ups should serve as an example. The role of educators is to educate and guide children, to provide suitable circumstances and to encourage children to resolve conflicts independently. Consistent implementation helps to raise awareness and internalize as well as adapt behaviour in a socially acceptable way. In this way, children will realize that each individual matters.

## Declaration of Interest

The authors declare no competing interest.

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*Received 10 December 2022; Accepted 10 August 2023*

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Cite as: Pajk, T., Aberšek, B., Kordigel Aberšek, M., Ucan, D., & Fošnjar, H. (2023). Teacher activities against victimization in school. *Švietimas: politika, vadyba, kokybė / Education Policy, Management and Quality*, 15(1), 18-32. <https://doi.org/10.48127/spvk-epmq/23.15.18>

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## ENHANCING RURAL TEACHERS' PROFESSIONAL DEVELOPMENT THROUGH PRE-SERVICE TEACHERS' SERVICE-LEARNING

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### Abstract

*Children who are differently abled from diverse contexts experience inequality regarding education, access to health care, social services, and a quality life. This study aimed to address the lack of awareness about autism spectrum disorder (ASD) in rural areas by focusing on a local primary school. Initial surveys revealed that 99% of the teachers at the school had no knowledge about ASD. To address this, an intervention was conducted to educate the teachers about the disorder. Subsequently, some teachers identified children in their classes exhibiting behaviors and symptoms consistent with ASD, leading them to pledge to consult the parents of these children and suggest autism as a possible explanation. The primary goal of this intervention was to create awareness about ASD in rural areas, where knowledge about the disorder is often lacking due to factors such as illiteracy and ignorance. By choosing a local primary school as the focal point, the study aimed to reach a broader audience and foster understanding and support for individuals with ASD in rural communities. The findings of this study underscore the importance of targeted interventions to raise awareness and support for individuals with ASD in underserved areas.*

**Keywords:** autism spectrum disorder (ASD), service learning, autism

### Introduction

Rural communities often face additional challenges in providing adequate support and resources for students with autism spectrum disorder (ASD). Researchers define autism spectrum disorder as “an umbrella term for a class of neurodevelopmental disorders characterized by a triad of deficits in social reciprocity, impaired communication, and repetitive restricted patterns of behavior.” (Blenner et al., 2011). Baio (2014) defined ASD as a lifelong developmental disability defined by diagnostic criteria that include deficits in social communication and social interaction and restricted, repetitive patterns of behavior, interests, or activities. This disorder has a range and severity of symptoms that can vary widely. Common symptoms include difficulty with communication, difficulty with social interactions, obsessive interests, and repetitive behaviors. These signs are usually seen when the child is two years old.

The prevalence of autism spectrum disorder (ASD) necessitates a comprehensive understanding of the condition among educators, particularly teachers in rural primary schools. However, our research has indicated a significant lack of awareness about ASD among teachers, particularly in rural areas, where access to information and resources may be limited. This study aims to address this gap by exploring the knowledge and perceptions of primary school educators regarding ASD, and by implementing an intervention to enhance their understanding of the disorder.

Previous studies have shown that Service-Learning experiences can help pre-service teachers develop a better understanding of ASD and contribute to raising awareness about the disorder in rural primary schools. Other scholars have also emphasized the importance of qualitative research methods in understanding the experiences of pre-service teachers and the challenges faced by children with ASD and their families. For example, Burns (1999) and Cornwell (1999) investigated the role of collaborative action research in language teacher education and the experiences of pre-service teachers in conducting research, respectively.

The significance of this study lies in the potential impact on the identification and support of children with ASD in educational settings. By focusing on rural areas, where awareness about ASD is particularly lacking, this research seeks to contribute to the broader goal of improving the inclusivity and support for individuals with ASD in diverse educational contexts. The findings of this study are expected to inform strategies for developing awareness programs tailored to the specific needs of educators in rural areas, ultimately benefiting children with ASD and their families.

### *Research Problem*

The research problem centers around the lack of specific training and professional development opportunities for teachers in rural areas, focusing on supporting students with ASD. Many teachers may have limited exposure to effective strategies and approaches needed to support students with ASD in such settings. This knowledge gap hinders the ability of rural educators to provide quality inclusive education to students with ASD. Addressing this problem is critical to improving the educational experiences and outcomes for students with ASD in rural communities. The research problem is framed within the context of raising awareness about ASD in rural primary schools and the potential impact of providing teachers and parents with the necessary knowledge and training to recognize and address the needs of children with ASD. The scholars cited in the study, including Graham and Robinson (2015), the American Psychiatric Association, and others, have also emphasized the importance of understanding and addressing the challenges associated with ASD, further supporting the relevance of the research problem.

## **Research Methodology**

### *General Background*

The research methodology is based on an interpretivist paradigm. According to Thanh and Thanh (2015), the interpretivist paradigm “is a theoretically understood paradigm that allows researchers to view the world through the perceptions and experiences of the participants. In seeking the answers for research, the researcher who follows the interpretivist paradigm uses those experiences to construct and interpret his understanding from gathered data”. In attempting to find answers for your research, the researcher who uses the interpretivist paradigm utilizes his/ her experiences to construct and interpret his/ her understanding from the collected data.

The study utilized action research. Action research involves a self-reflective, systematic, and critical approach to enquiry by participants who are, at the same time, members of the research community. The aim is to identify problematic situations or issues considered by the participants to be worthy of investigation in order to bring about critically informed changes in practice. (Burns, cited in Cornwell 1999, p. 5). Action research was used because it allowed us to participate and collaborate in the research in solving and ensuring that our goal of obtaining the information from the center was fulfilled. Different activities were done together with our participants in exploring ASD and then raising awareness about ASD. Children's behavior was observed in and outside the classroom, as well as how they interacted with each other, particularly outside the classroom (playground). Moreover, we gathered data from the teachers in the center regarding how they ensured the development of the children.

### *Participants*

The research employed purposeful sampling, targeting autistic children, their teachers, and teachers in rural primary schools. Patton (2002) defined purposeful sampling as one that is used to identify and select information-rich cases that are related to the phenomenon of interest. This means that a researcher identifies and selects individuals who are knowledgeable about the phenomenon of interest. Bernard (2002) and Spradley (1979) noted the importance of the availability and willingness of participants to participate and their ability to communicate experiences and opinions in an articulate, expressive, and reflective manner. It is the most common sampling strategy in qualitative research and pursues cases rich in information which can be studied in a great deal about issues of central importance to the purpose of the research, which is based on autism and raising awareness about autism in a rural primary school. The participants for this research were autistic children and their teachers in the site, as well as teachers in rural primary schools. Using purposeful sampling was advantageous because we were able to identify and select rich information from the behaviors of the autistic children and from their teachers through interviews. Questionnaires were also used to gather information from rural areas teachers.

### *Sample Description*

Information on the study participants is presented in Table 1.

**Table 1**  
*Biographic Information for the Autistic Children*

<b>Participants</b>	<b>Gender</b>		<b>Estimated age</b>
	<b>Male</b>	<b>Female</b>	
Participant 1		√	6 years
Participant 2		√	6 years
Participant 3	√		7 years
Participant 4	√		4 years
Participant 5		√	5 years
Participant 6	√		5 years
Participant 7	√		5 years
Participant 8		√	5 years
Participant 9	√		6 years
Participant 10	√		6 years

Biography of autistic children's teachers is presented in the Table 2.

**Table 2**  
*Biography of Autistic Children's Teachers*

<b>Participants</b>	<b>Estimated age</b>	<b>Where they live</b>
Participant 1	35 years old	Umlazi
Participant 2	32 years old	KwaDabeka
Participant 3	30 years old	Ntuzuma
Participant 4	33 years old	Itshelimnyama

#### *Data Collection and Instrument*

To collect data for this research, observations, interviews, and questionnaires were used, and this helped in a deeper understanding of the disorder and its behaviors. The format of the questionnaire was closed since the participants were provided with possible answers to choose from. These questionnaires were designed to gather the participant's prior understanding of the research. The format of the interview was oral since various questions

were presented to different participants. The questions of the interview were open-ended, as broader information was required from the participants about the research.

**Observation:** Observation is one of the major parts of data collection although it is not noticeable. This is because research gathers information through observation of the participants. In this research, researchers observed the participants (autistic children and their teachers), the behaviors of the children towards each other and how they interact. Specific attention was paid to how the children socialize with each other since, in the studies, we noticed that most researchers highlight the fact that autistic children have difficulties in socializing and interacting with other people.

**Questionnaires:** According to Schmidt (1997), a questionnaire provides a tool for eliciting information which a researcher can put into a table and deliberate; by this, it means that participants will provide information or data for this research. Closed-format questionnaires were distributed to participants before the service-learning presentation about autism spectrum disorder in the local primary school. This approach aimed to gather participants' prior understanding of the disorder.

**Semi-structured Interviews:** The study utilized semi-structured interviews, allowing for open-ended questions to gather data from the participants. Semi-structured interviews are mostly used to gather data from the participants since the questions are not formalized, allowing for a discussion. It allowed the participants to be flexible and further elaborate on the questions asked. The open-ended question nature allows for the interviewer to discuss some details of the topic in detail and the interviewee to answer freely. These types of interviews also allow the researcher to probe the interviewee to elaborate more on the topic and this works best when the interviewer has several areas that he/she wants to address. The following 7 questions were asked.

#### Interview Questions

##### AUTISM SPECTRUM DISORDER

- According to your understanding what is autism spectrum disorder?  
-----
- What are the challenges you usually encounter regarding autistic children ever since you started working with autistic children?  
-----
- How do you ensure that these children socialize with each other?  
-----
- We noticed that when these children first came to this center, many of them had speech problems. How did you manage to improve their speech?  
-----
- When you started to be a teacher in this center, did you have any idea about autism?  
-----



- What do you think can be improved to improve communication skills in autistic children?

- How do parents assist the teachers in improving the children's communication and socializing skills?

**Table 2**

*The Questionnaire Used to Find Background Knowledge of Teachers in the Rural Primary School*

Questions	A	B	C	Answers from participants(10)
1. What is Autism	It is a mental illness which affects old people	<b>It is a developmental disorder that that effects communication and behaviour</b>	It is a disease which affects the reproductive organs of woman	4/10
2. Who gets autism	<b>Anyone</b>	Old people	Women only	4/10
3. Is autism infectious	Yes	<b>No</b>	I don't know	2/10
4. What to do if a child is autistic	<b>Seek professional help</b>	Pray for child	-	5/10
5. Is Autism diagnosable	<b>Yes</b>	No	I don't know	3/10
6. How frequently do teachers see symptoms of autism from their learners	Less	More	<b>Never been aware</b>	9/10
7. Do teachers communicate with parents if they see these symptoms?	Yes	<b>No</b>	-	10/10

The research emphasized the importance of rigor, reliability, and validity.

### Rigor

It is vital for research to have reliability and validity. According to Neuman (1997), the groundwork for clarification rests on triangulated empirical materials that are trustworthy. Trustworthiness was established by using Guba's model of trustworthiness of qualitative research. The four criteria for trustworthiness are: credibility, transferability, dependability, and confirmability. When we started our research, we started by looking for a site that we would be using to provide our Service-Learning and ensuring that we had all the necessary documents with us as we went around looking for the site. We presented the letter that we had received from our lecturer to the site principal, making it easier for the site principal to

believe us and trust us with regard to where we come from. Record of everything done in the site was kept and pictures were taken, with the permission of the site principal. As data was collected the main aim was to collect data that is reliable and valid.

#### Credibility

##### *Prolonged field experience and observation*

Time was spent with the children at the center to gain their confidence and trust because, as they are autistic, they are easily overwhelmed and, in most cases, when they are introduced to unfamiliar people and things. Time was spent with them with the aim of observing the teachers in the center in terms of how they teach the children and also observing the children's daily routine. Moreover, we reflected on the experiences we had each day and made notes of the experiences as a group. Copies of anonymous transcriptions of interviews and field notes are attached to the research. The findings of the research were submitted and discussed with participants.

#### Transferability

Complete control of methodology, including verbatim quotes from the interviews. All of that was taken into consideration.

#### Dependability

Classroom, playground observation and interviews were used. The research methodology was fully described. Copies of anonymous transcriptions of interviews are attached to the research.

#### Limitations

Conducting research is not always smooth and fun with no challenges. Challenges are always there and sometimes cause the researcher to give up and quit continuing with the research. As we were also doing our Service-Learning and research, we also experienced challenges and there were obviously limitations to our study:

- Planning- is the most important factor of life as it is an act of professionalism, and it is also mostly important for researchers because planning does not only help one develop planning skills, but it helps the researchers to know their possible challenges before action which would help them to encounter those challenges beforehand. Knowing the possible challenges earlier would also help the researchers to manage their time properly. We could not always plan because the children we were working with were vulnerable and easily overwhelmed, so we were cautious that we might plan things that they would not be interested in. We designed the attendance register for both us and our participants so that they will be aware of the times that we are attending the site to prevent confusion and to also prevent time wasted.

- Time management- On our site, we had various activities which were provided by us, and which are part of the service learning. However, we were required to observe for 15 hours and provide our service learning for 10 hours; hence, we could not do other activities that we had planned and only ended up doing a garden.
- Funding- was also one of our limitations because we could not afford to buy all the resources that we actually needed to provide our service learning, which resulted in doing some of the planned activities and not doing them all as we had planned.
- Reliability – the participants may not always remain truthful because some people treasure their personal space and privacy, and that can produce false information.

### *Ethics*

When conducting research that is going to involve human participants, a researcher needs to be aware of ethical issues, such as the safety of the participants and the privacy of the participants. In this research, we informed participants about every step that was going to be taken in conducting the research. With their permission pictures were taken while working with them and ensured that their identity is not exposed for their safety and security as well as protecting their privacy. As Morgan (1996) says to researchers, when conducting their research, they should always keep in mind that they are, in actual fact, entering the private spaces of their participants as they are researching. Reasonably, this raises several ethical issues that should be addressed during and after the research has been conducted. According to Elgesem (2002), researchers are obligated to respect the rights, needs, values, and desires of the participants. They caution researchers to be aware of these and other issues before, during, and after the research has been conducted.

### *Data Analysis*

The data analysis of this study involved a combination of qualitative and quantitative approaches, including observations, interviews, and questionnaires. The researchers used purposeful sampling to identify and select information-rich cases related to the phenomenon of interest, which in this case was autism spectrum disorder (ASD).

## **Research Results**

Service learning was provided to learn more about autism at a Special needs center in Sarnia, Pinetown. Basically, the center caters for children with multiple disabilities which includes autism. It caters for children from approximately 2 years and grooms them until they are ready to continue to other special needs centers. All children in this center showed different characteristics of being autistic as individuals, and that alone helped us accumulate as much information with respect to observing their behaviors. The teachers of the autistic children were also part of the participants. There were 4 of them, all female, and they were between the ages of 30- 38 years.

The qualitative analysis of this research involved observations at the care center (Whizz Kids) on how the autistic behave differently from other normal children, this included the observation of how they behave, learn, and interact with other people as well

as how their teachers cope with them. From what was observed, these children were not familiar with different textures, which could mean that less action was done at the center to introduce the children to different textures.

The research findings highlighted the lack of awareness about ASD in rural areas, leading to children with ASD being neglected and not receiving the appropriate education and support. The study also emphasized the challenges faced by children with ASD and their families in rural areas, such as limited access to special needs centers and insufficient resources in educational settings. The research aimed to address these challenges by engaging with teachers in developing a creative program for children with ASD, including activities like gardening and hand painting.

**Figure 1**

*Planting Sessions with Autistic Kids*



Planting sessions with autistic kids were for introducing the children to different textures (soil) with which they were not familiar, with the aim of observing how children respond to the new environment.



**Figure 2**  
*Playing Session (Instilling Social Skills)*



## Discussion

The aim of this study was to explore how well-aware primary teachers are about ASD with the aim of enhancing awareness. Participants in the primary school were 10. There were only 2 male teachers, and all the 8 teachers were female teachers. Judging from the numbers we were able to see, most teachers in the primary school did not have an idea of what autism is. What was also noticed was that other teachers were using their phones to assess google to get some of their answers right. However, we announced to them that they did not need to assess Google as the questionnaires needed their understanding. The issues of them assessing the search site made things difficult for us in terms of knowing if their answers were real or if they did not know anything at all about the autism disorder. Only 4 out of 10 participants had an idea of what autism spectrum disorder was. 4 out of 10 were able to answer the question of who becomes affected by the disorder. Half of the teachers knew that if a child was showing signs and symptoms of autism, professional help was needed. 3 teachers knew that the disorder was diagnosable. However, what caught our attention was that 9 out of 10 teachers said that they did not see the signs of autism in their learners in class, and they all admitted that they had never communicated with the parents of the children. Moreover, with regard to observing the signs from the learners, we assumed that this was because they had never really seen the signs of autism in learners in their classrooms.

Through the questionnaires, we were able to see that most teachers in the primary school did not have information about autism. Several previous studies have highlighted the importance of teachers obtaining professional development regarding ASD (Alexander et al.

2015; Barnhill et al. 2014). According to James (2010), it is essential in that the pre-service student teachers can address poverty, hunger, and develop an understanding of the learners that they teach. Teachers must have a broad understanding of ASD and the needs of students with ASD in educational settings (Hart & Malian 2013).

**Figure 3**

*Picture of the Presentation Occurring in the Rural Primary School*



### **Conclusions and Implications**

This study emphasizes the significance of the study's findings and the impact of the intervention in raising awareness about autism spectrum disorder in a rural primary school. The study revealed that prior to the intervention, 99% of the teachers at the school had no knowledge about autism spectrum disorder. However, after the presentation and intervention, some teachers identified children in their classes exhibiting behaviors and symptoms consistent with autism. These teachers pledged to consult the parents of these children and suggest autism as a possible explanation, aiming to provide support for both the parents and the children.

The synthesis of the study underscores the primary aim of creating awareness about autism spectrum disorder in rural areas, where knowledge about the disorder is often lacking due to factors such as illiteracy and ignorance. The decision to focus on a local primary school in the nearest rural area was driven by the recognition that individual outreach in the

rural area would be challenging, leading to the selection of a primary school as the focal point for the intervention.

The conclusion highlights the practical implications of the study, demonstrating the potential for creating awareness and support for individuals with autism spectrum disorder in rural communities. It underscores the importance of targeted interventions and education in addressing the lack of knowledge about autism spectrum disorder in rural areas, particularly among teachers and the broader community. The study's findings and the commitment of the teachers to support children with autism reflect the positive impact of the intervention and the potential for fostering understanding and assistance for individuals with autism spectrum disorder in rural settings.

## Acknowledgements

A special and warm gratitude to the principal of Whizz Kids Care Centre for allowing us to work with their children in their school, the teachers who supported and guided us at the school throughout our observation and services, Prof. Angela James who was not only our supervisor of this research but also the lecturer of the module Biology 420, who gave us the opportunity to work with communities and different people and finding our hidden capabilities in the process while doing our service learning. The principal at the local primary school welcomed us and allowed us to present our research to her school, and the teachers at the school, who were present during the presentation, gave us their time to listen to us, Gabisile Ngcobo who was my partner in this journey from start to finish. Last but not least, the children who were also our participants in this research and everyone else who contributed to the success of our research.

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*Received 12 October 2023; Accepted 15 December 2023*

Cite as: Phetha, N. (2023). Enhancing rural teachers' professional development through pre-service teachers' service-learning. *Švietimas: politika, vadyba, kokybė / Education Policy, Management and Quality*, 15(1), 33-45. <https://doi.org/10.48127/spvk-epmq/23.15.45>



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# THE MAIN STAGES OF THE IMPLEMENTATION OF A SCIENTIFIC PROJECT ON THE FORMATION OF PROFESSIONAL SELF-DETERMINATION OF STUDENTS WITH SPECIAL EDUCATIONAL NEEDS

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## Abstract

*The main stages of the implementation of a scientific project on the formation of professional self-determination of students with special educational needs are discussed in the article. The project "Formation of professional self-determination of students with special educational needs (SEN) as a national strategy for inclusive education in the Republic of Kazakhstan" was launched in 2022. The purpose of the project: scientific substantiation and practical implementation of the program-methodical support of psychological and pedagogical accompaniment for the process of forming the readiness of students with special educational needs for professional self-determination, taking into account the strategy of inclusive education in the Republic of Kazakhstan. The project involves lecturers of the Department of Pedagogy and Educational Management and the Department of General and Applied Psychology of the Faculty of Philosophy and Political Science of Al-Farabi Kazakh National University. The article was prepared as a part of the funding of the Project: IPH AP 14872130 "Formation of professional self-determination of students with special educational needs (SEN) as a national strategy in the field of inclusive education in the Republic of Kazakhstan", which won the Grant following the results of the Competition of the Ministry of Education and Science of the Republic of Kazakhstan for grant funding of scientific and (or) scientific and technical projects for 2022-2024, as well as the goal of the sustainable development goals ("Sustainable Development Goals", 2023), i.e. education, where among the indicators is ensuring access to inclusive education, within the framework of the concept of lifelong education.*

**Keywords:** advanced training courses, professional self-determination, students with special educational needs

## Introduction

In 2022 Al-Farabi Kazakh National University launched the project "Formation of professional self-determination of students with special educational needs (SEN) as a national strategy in the field of inclusive education in the Republic of Kazakhstan", which won the Grant following the results of the Competition of the Ministry of Education and Science of the Republic of Kazakhstan for grant funding of scientific and (or) scientific and technical projects for 2022- 2024. The object of the research is the process of formation of students' readiness for professional self-determination in conditions of university education. The purpose of the project: scientific substantiation and practical implementation of the program-methodical of psychological and pedagogical support for the process of forming the readiness of students with special educational needs for professional self-determination, taking into account the strategy of inclusive education in the Republic of Kazakhstan.

## **Formation of Professional Self-determination of Students with Special Educational Needs (SEN)**

*The relevance and novelty of the Project* is determined by the fact that in the international documents adopted by UNESCO (*UNESCO. Education for All.*) and the UN (*United Nations Convention on the Rights of Persons with Disabilities 2006*), one of the factors of building a civil society is the development of an inclusive education system. Kazakhstan, being a member of the international community, has undertaken to take measures to ensure the rights of people with disabilities in matters of access to work, justice, education, health care, which was enshrined in the Law "On Education of the Republic of Kazakhstan" (The Law "On Education of the Republic of Kazakhstan", 2023). In accordance with the principle of inclusiveness, the task of creating the necessary conditions in universities for the introduction of inclusive education in order to ensure equal access to educational services for people with special educational needs (SEN) and their professional self-determination becomes significant. *The scientific novelty* lies in comprehensive interdisciplinary research of the problems of legal development of education, the system of protecting children's rights in the Republic of Kazakhstan and the development, based on the study of Kazakhstan and foreign experience, of recommendations that have theoretical and practical significance for inclusive education in higher education. Head of the Scientific Project, Doctor of Pedagogical Sciences, Professor of the Department of Pedagogy and Educational Management of al-Farabi KazNU A.S.Magauova.

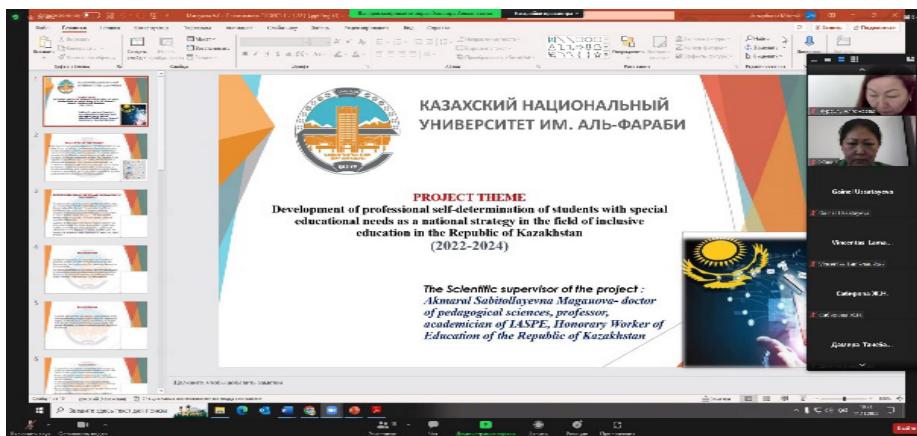
According to the informational portal "Inva.kz", at the moment in the country, there are more than 162 thousand children with special educational needs, or 3% of the total number of children, who require a special approach to the educational process" (*How many children with special educational needs are there in Kazakhstan?*). The project is a comprehensive interdisciplinary study of the problems of the legal development of higher education, the system for protecting the rights of students with disabilities in the Republic of Kazakhstan and the development of recommendations based on the study of Kazakhstani and foreign experience that have theoretical and practical significance for inclusive education.

On November 11, 2022, within the framework of the Project, the International Round Table "Problems and experience of psychological and pedagogical support of students with SEN at the university" was held. B. B. Meyirbaev, Dean of the Faculty of Philosophy and Political Science, al-Farabi Kazakh National University after candidate of philosophical sciences, associate professor, made a welcoming speech. In the Presentation of Magauova A.S., project leader, doctor of pedagogical sciences, and professor, the main ideas, goals, objectives and expected results of the presented project were highlighted. Scientists from near and far abroad took part in the round table: Vincentas Lamanauskas - Professor of Education at the Siauliai Academy of Vilnius University, Doctor of Social Sciences (Siauliai, Lithuania); Leung Chi Hung - Professor, Department of Special Education and Counselling, Hong Kong Pedagogical University, Hong Kong; Izka Derijan - Associate Professor, First Vice-Rector of the Southwestern University "Neofit Rilski", Blagoevgrad (Bulgaria); Pepa Miteva - Professor of the Department of Pedagogy and Psychology, BSU, Burgas (Bulgaria); Urazova Marina Batyrova - Doctor of Pedagogy, Professor of the Department of Pedagogy, Tashkent State University named after Nizami (Uzbekistan). Usatayeva G.M., Candidate of Medical Sciences, made presentations. Sciences, Ass.Professor, Director of the LEC

Center, DECIDE Project Coordinator; Mukasheva A.B. - Doctor of Ped.sc, Director of the Center for Support of Students with Disabilities of al-Farabi KazNU., Shagyrbayeva M.D. - Ph.D., Head of the Department of Pedagogy, Caspian State University of Technology and Engineering, Khairullaeva M. - Psychologist, Head of the "Ability" Center (Taraz), Master of Pedagogy and Psychology, graduate of the educational program "Modern Technologies in an Inclusive education" of Al-Farabi Kazakh National University.

**Figure 1**

*The International Round Table "Problems and experience of psychological and pedagogical support of students with SEN at the university"*



**Figure 2**

*Presentation of V. Lamanauskas (Vilnius University Šiauliai Academy, Šiauliai, Lithuania) at the International Round Table "Problems and experience of psychological and pedagogical support of students with SEN at the university"*



15.02. 2023 at Al-Farabi Kazakh National University, an international scientific and practical conference, "Inclusive education in higher educational institutions: strategies, practices, resources", was held. Conference organizers: Republican educational methodical committee of Al-Farabi KazNU, Doctor of Pedagogical Sciences, Professor of the Department of Pedagogy and Educational Management Magauova A. S. Honorary guests of the conference: Serikov Tansaule Gabdymanapovich - Advisor to the Minister of Science and Higher Education of the Republic of Kazakhstan on inclusive education in higher education (Kazakhstan); scientists, experts in the field of inclusive education: Khitryuk V.V., Zhuk T.V. (Republic of Belarus, Minsk); Urazova M.B. (Uzbekistan, Tashkent); Oveyan S.A. (Republic of Armenia, Yerevan); Shayakhmetova A.A., Satova A.K., Rymkhanova A.R. (Kazakhstan); Aubakirova R.Zh., Ozgambayeva R.O. (Kazakhstan).

**Figure 3**

*Participation in International Scientific and Practical Conference "Inclusive education in higher educational institutions: strategies, practices, resources"*



**Figure 4**

*Report of the Head of the Project of A. S. Magauova at the Conference*



**Figure 5**

Zh. T. Makhambetova with the Head of the Project, Professor A. S. Magauova



**Figure 6**

T. G. Serikov – Meeting with Advisor to the Minister of Science and Higher Education of the Republic of Kazakhstan on Inclusive Education in Higher Education (Kazakhstan)



Within the framework of the project, a socio-psychological training was held for students with special educational needs of Al-Farabi KazNU. (Ph.D., Professor of the Department of General and Applied Psychology of al-Farabi KazNU Sadvakassova Z.M., PhD student of the Department of Pedagogy and Educational Management Suleimen M.).

The project team conducted advanced training courses for university lecturers under the program "Psychological and pedagogical accompaniment for students with special

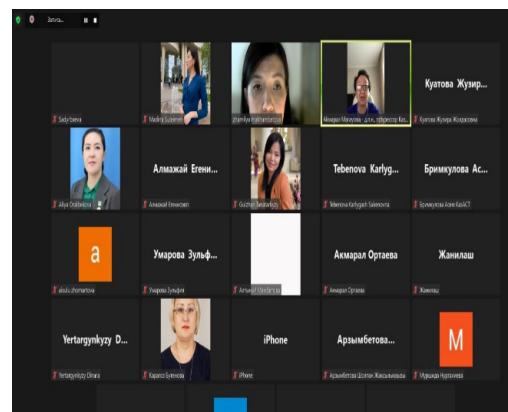
educational needs in an inclusive educational environment of the university." The courses were attended by lecturers of Kazakhstani universities: al-Farabi KazNU, KarSU named after E.A. Buketov, PSU named after S. Toraigyrov, KSU named after Sh. Ualikhanov, Caspian University of Technology and Engineering named after Sh. Esenov, SKSPU, Zh. Tashenov University, S. Demirel University. The advanced training courses dealt with such topics as "State educational policy of the Republic of Kazakhstan in the field of higher inclusive education", "Foreign experience in the process of forming professional self-determination of students with special educational needs at the university", "Tutor of inclusive education in higher education", "Training technologies and their role in the formation of professional self-determination of students with special educational needs at the university", "Technological methods of assertive behavior in an inclusive environment", "Culture of managing negative emotions in an inclusive environment", etc. An invited speaker from Uzbekistan, Deputy Dean of the Faculty of Pedagogy and Psychology for Science and Innovation of the Tashkent State Pedagogical University named after Nizami, Doctor of Pedagogical Sciences, Professor Aziza Shamsitdinovna Mukhsiyeva delivered a lecture "Scientific and methodological foundations of inclusive education in Uzbekistan." A speaker from Armenia was also invited.

**Figure 7**

*Meeting with A. V. Avagyan (Yerevan, Armenia) at Advanced Training Courses for University Lecturers*

**Figure 8**

*Advanced Training Courses for University Lecturers*



Armenuhi Vladimirovna Avagyan, Doctor of Pedagogy, Associate Professor, Head of the "ARMAV" Center for Lifelong Education, shared her experience in integrating alternative means into the system of inclusive education, giving a lecture on "Using alternative means of communication in the context of inclusive education". A lecture by Professor of the Hong Kong University of Education, head of the Center for Special and Inclusive Education, Sin Kuen Fung Kenneth, was listened to with great interest. The experience of distance education of children with intellectual disabilities was presented.

## Summing-up

It is planned to publish an educational-methodical manual in Kazakh, Russian and English languages, hold an international conference, conduct trainings, and exchange experience of specialists in this field. The results of the research will contribute to the development of modern scientific knowledge on the theory of vocational education, by concretizing the key concepts of "the formation of professional self-determination of students with SEN", identifying trends, factors and conditions, analyzing innovative technologies and modern methods of psychological and pedagogical support for the formation of professional self-determination of students with SEN. The results obtained will provide information on the state of inclusive education in universities, identify real socio-psychological problems associated with professional self-determination and employment of graduates with SEN.

The implementation of the project allows expanding international cooperation with foreign scientists dealing with the problems of inclusive education.

## Declaration of Interest

The authors declare no competing interest.

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*Received 18 October 2023; Accepted 12 December 2023*

Cite as: Makhambetova, Z. T., & Magauova, A. S. (2023). The main stages of the implementation of a scientific project on the formation of professional self-determination of students with special educational needs. *Švietimas: politika, vadyba, kokybė / Education Policy, Management and Quality*, 15(1), 46-52. <https://doi.org/10.48127/spvk-epmq/23.15.46>



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# THE RELEVANCE OF EDUCATIONAL PROGRAMS AS AN INDICATOR OF THE QUALITY OF PROFESSIONAL TRAINING

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## Abstract

*The demand for educational programs is measured by several indicators, one of which is the quality of professional training. In turn, the indicator of the quality of specialist training in this context is the demand in the labor market. All these opportunities are provided by the educational programs of the Department of General and Applied Psychology of Al-Farabi Kazakh National University. The review of the department's educational programs demonstrates a high practice orientation in their implementation, a wide range of activities offered to students, an excellent base for training highly qualified psychologists of various profiles and levels (from bachelor to Doctor of Sciences).*

**Keywords:** educational program, practice orientation, demand competitiveness, quality of professional training, monitoring the demand for graduates

## Introduction

Global competition implies strengthening the practical orientation of vocational education to "meet the requirements of the labor market." One of the real competitive advantages in this struggle is undoubtedly the provision of high-quality education.

The quality of education (specifically in the field of higher professional education) is determined by the quality of educational programs, teaching methods, the competitiveness of graduates in the labor market, the level of competence of a teacher, as well as his need and ability to engage in teaching, fame, research activity, and the presence of a scientific school.

At the same time, educational programs themselves can guarantee the quality of professional training if they meet the modern requirements of a competence-based approach, are compiled taking into account the latest trends in the field of program direction, are practice-oriented, provide for the inclusion of leading specialists in the industry in the teaching process, etc.

An analysis of European approaches to assessing the quality of educational programs has revealed the importance of achieving the set goals at all stages of the educational process, in particular: compliance with the goals of the programs with the institutional strategy and the availability of strictly defined expected learning outcomes; integrated development of the teaching staff, transparency of procedures governing the educational process and quality assessment procedures; as well as student-centricity through educational, scientific, extracurricular opportunities for students, active learning (Framework Standards and Guideline, 2021; Standards and Guidelines, 2015).

The Department of General and Applied Psychology of Al-Farabi Kazakh National University has been carrying out three-level training "Bachelor's–master's - doctoral studies" in the field of Psychology for many years. At the same time, the training programs are so

unique that they can allow students to find a profession according to their taste and interests (Tokbai, 2023).

Psychology is a unique science that finds its application in virtually all areas of human activity – from the development of children to the organization of trainings and support for the training of athletes (Kassen, 2019). If psychology is represented by one or two educational programs in most universities of the country, then the Psychology direction at al-Farabi Kazakh National University represents a wide range of such specializations and qualifications that an uninformed reader will need a whole excursion into the proposed educational programs.

## **Overview of Educational Programs**

The bachelor's degree program "6B03107-Psychology" was developed in 2006 jointly with the main partners - the National Scientific and Practical Center for Correctional Pedagogy, the Republican Scientific and Practical Center for Mental Health and the Kazakh Psychological Society.

The EP has passed the international accreditation of the ACQUIN agency. The program has a wide profile of professions:

- practical psychologist at enterprises and in banking structures
- psychologist in medical institutions
- practical psychologist in military structures
- psychologist in general education institutions (schools, gymnasiums, lyceums, colleges)
  - teaching psychology as a general education discipline in secondary schools
  - organizational and managerial activities in organizations (as an employee of HR departments, recruiting agencies, consulting agencies specializing in working with human resources)
  - psychologist-consultant or psychologist-trainer in psychological and educational centers
- professional activity in expert, government organizations engaged in the analysis of human activity in various sectors of life (for example, work as an expert in forensic or military expert organizations).



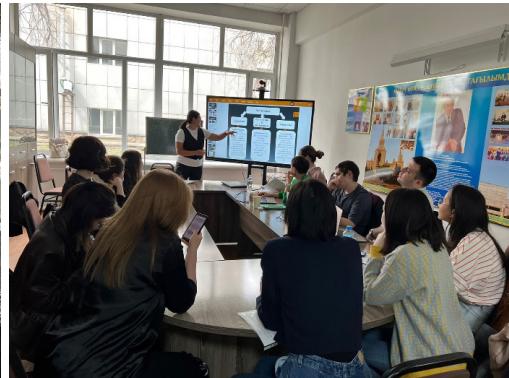
**Figure 1**

*Bachelors and Undergraduates at an Online Meeting with Practical Employees in the Field of HR*



**Figure 2**

*Undergraduates at the Educational Classes on the Prevention of Radicalization*



The Master's degree in various educational programs provides training for work in the fields of education, science, business, healthcare, industry, services, public service, as well as for military and law enforcement agencies, specialized services.

According to the content and learning outcomes, the Master's degree programs meet the requirements for the preparation of masters in psychology at such leading foreign universities as the University of Leipzig, Stichting Euregio University, University of Florida, University of Guelph, University of Cincinnati, The University of North Carolina, The University of Edinburgh, Berkeley University, University of Amsterdam.

All Master's degree programs are practice-oriented. Strengthening the practical training of specialists, mastering the specifics of the future place of work in the learning process – this is the motto of the department in relation to the professional training of students (Kasen & Abdullaeva, 2020). Therefore, all educational programs have, in addition to practice bases, a training base (teaching of certain applied disciplines is conducted in specialized institutions and organizations).

The Department of General and Applied Psychology offers its students a base of practices that allow them to form the ability to provide educational services of an appropriate level in various spheres of public life:

- Republican psychological, medical and pedagogical consultation at the National Scientific and Practical Center for Correctional Pedagogy.
- Republican Scientific and Practical Center for Mental Health.
- Professional League of Psychologists and specialists in helping professions.
- Kazakh Psychological Society.
- The Zhandy Nur Public Foundation.
- Institute of the Family of Kazakhstan and Central Asia.
- The Center for Psychological and Social Assistance at the Kazakh Research Institute of Oncology and Radiology.
- «Perspektiva» Personality Development Center and others.

The names and a brief description of the proposed Master's degree programs are presented in Table 1.

**Table 1**  
*Master's Degree Educational Programs*

<b>The cypher and the name of the Educational programs of the Department of General and Applied Psychology</b>	<b>Types of professional activities that the program prepares for</b>
7M03125 - Psychology	Scientific, pedagogical, managerial, expert and psychological activities in higher educational institutions, research, psychological centers, public and non-governmental institutions, ministries and departments, industry sectors, military and law enforcement agencies, based on the application of psychological knowledge in the field of support, assessment, selection, management, counseling and personal development.
7M03117-Clinical Psychology	Professional psychological activity in clinical diagnostic, consultative psychocorrective, therapeutic and preventive, rehabilitation, scientific research, medical organizations, and public health institutions for the organization of psychological work with people of different ages who have disorders of mental activity, behavior and other psychopathological disorders.
7M03116-Child Psychology	Scientific and pedagogical, research and psychological activities with children, adolescents and their environment, including diagnosis, counseling, psychocorrection, psychotherapy, support and psychoprophylaxis in the field of child and adolescent psychology.
7M03118-Personality and Organizational Psychology (in English. language)	Psychological activity in the field of personal and organizational psychology, in various fields (business, education, services, healthcare, sports), providing psychological assistance to an individual and a group in organizations of various profiles, including psychological diagnostics, selection, training and development of personnel, counseling, consulting, psychocorrection, training, coaching, psychological support and supervision.
7M03119-Psychology in Healthcare	Psychodiagnostic, consultative, psychotherapeutic activities in the process of treatment, rehabilitation, and prevention of diseases, maintaining a healthy lifestyle among the population, when working with patients as part of the therapeutic and rehabilitation process and psychological and educational activities within the framework of preventive programs for a healthy population.
7M03122-Sports Psychology	Psychological support of the sports and training process; development of the athlete's personality and motivation of achievements based on psychological methods and techniques; creation of an educational and training environment conducive to the psychological health and professional growth of athletes.
7M03121- Psychology of extreme and emergency situations	Psychological support in emergency and extreme situations; psychological assistance to individuals (clients) in difficult life situations; advisory assistance to social services workers; prevention and psychological correction of negative social manifestations in the behavior of social groups and individuals.

You can learn more about the above-mentioned bachelor's and master's degree programs on the website of the Faculty of Philosophy and Political Science of Al-Farabi Kazakh National University. Or on the sites: [https://www.kaznu.kz/ru/education\\_programs/bachelor](https://www.kaznu.kz/ru/education_programs/bachelor); [https://www.kaznu.kz/ru/education\\_programs/magistracy](https://www.kaznu.kz/ru/education_programs/magistracy).

*The educational program of the doctoral program "8D03107-Psychology" (in English) has an urgent focus on neuroscience, due to the modernization of the field of psychological activity, the introduction of professional standards and the lack of educational programs in the Republic of Kazakhstan with the integration of psychological, managerial, and pedagogical aspects. This is a fundamental, practice-oriented program, which is an interdisciplinary complex covering topical issues of brain research, psychophysiology, neurocognitive science, and applied practical psychology.*

To implement all these programs, the Faculty of Philosophy and Political Science has a CogNeuro Research Center, a Center for Psychological Technologies and Innovations, a Laboratory for Psychophysiological research (based on a polygraph), and a psychological counseling office.

For several years, the department has been cooperating with representatives of leading universities on the training of psychologists and psychological applied problems. Cooperation and meetings have been organized with such professors of leading foreign universities as Professor Meng Cheungchung (Zayed University, United Arab Emirates) on stress tolerance and coping behavior, Professor Saba Safdar (University of Guelph, Canada) on ethnic psychology; Professor Del Harnish, University of Nebraska-Lincoln, USA on Innovative Technologies in Education; Professor Alena Garber (Duisburg University, Germany) on the problems of modern technologies in counseling psychology, Professor Gerald Matthews (University of Cincinnati, USA) on problems of emotional intelligence, Professor James Parker (Trent University, Canada) on the main areas of modern world psychology, Professor Nigel Forman (Middlesex University, UK) on current problems of cognitive and Behavioral Psychology, Professor Zafer Bekirogullari (King's College University, London, England) on the problem of cognitive behavioral and family therapy, Professor Alexandrov A.A. (Institute of Psychology of the Russian Academy of Sciences) on the main problems of modern psychophysiology, etc. (Niyazova, 2016). In the direction of developing academic mobility, students undergo scientific internships at foreign universities and centers as part of their professional orientation.

In addition, the Department of General and Applied Psychology works in close cooperation with various practice-oriented organizations and communities: the Almaty Association of Transactional Analysis, the Center for Academic and Practical Psychology, which trains consulting psychologists in the field of symbol drama, etc. The results of cooperation are reflected in the joint holding of conferences, seminars and master classes, the involvement of specialists from these organizations in teaching at the master's and bachelor's degrees.

**Figure 3**

*Meeting of the Working Group on Master's Degree Educational Programs*



The most important resource for the implementation of these training programs is the highly rated potential of the faculty of the department, which is in demand by the psychological community in the country and in the world.

The Department of General and Applied Psychology carries out its own monitoring of the demand for graduates. The following data are taken as a basis: employment in the specialty, employment not in the specialty, self-employment, and continuing education at the next stage of education, maternity leave, non-employment.

The annual monitoring of the demand for graduates of the department at all levels shows that over 60% of students are already employed in the process of obtaining higher professional education, while 47% of them are already working within the framework of specialization. Upon graduation, almost 97% of graduates find a profession they like and a diploma.

### **Summing-up**

Over the past decades, the labor market and diversified production have placed high demands not only on the quality of the labor product but also on the subject of professional activity, i.e., on a specialist. This position strengthens the responsibility of a professional educational organization both for the process of training a future specialist (employee) and for its result, which is characterized by a measure of compliance of the graduate's qualifications with the requirements of the employer.

Taking into account the analysis of employers' requests, the most common signs of the competitiveness of a specialist psychologist can be identified:

1. Knowledge of the methodology, theory, methodology, and practice of necessary and sufficient knowledge for successful work in this and related fields of psychology.

2. The availability of competencies and work experience that allow you to independently and responsibly make informed and effective decisions.
3. Willingness to master and use the most effective intellectual strategies, the ability to observe and analyze processes, and interpret the results necessary to perform psychological functions.
4. Communication skills: the ability to work in a team, adapt to changes in living conditions.
5. The development of the creative potential of the individual, the availability of vital resources that ensure readiness for self-development and self-expression.
6. The presence of an optimal combination of individual psychological characteristics of the personality (temperament, character, initiative).
7. Necessary and sufficient cultural and professional education.

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*Received 18 November 2023; Accepted 16 December 2023*

Cite as: Kassen, G. A. (2023). The relevance of educational programs as an indicator of the quality of professional training. *Švietimas: politika, vadyba, kokybė / Education Policy, Management and Quality*, 15(1), 54-60. <https://doi.org/10.48127/spvk-epmq/23.15.54>



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## **5<sup>th</sup> INTERNATIONAL BALTIC SYMPOSIUM ON SCIENCE AND TECHNOLOGY EDUCATION “SCIENCE AND TECHNOLOGY EDUCATION: NEW DEVELOPMENTS AND INNOVATIONS (BalticSTE2023)”: SYMPOSIUM REVIEW**

**Vincentas Lamanauskas**  
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The fifth BalticSTE2023 Symposium took place in Šiauliai on 12-15 June this year. Time passes inexorably, which is why this symposium can be called an anniversary symposium. It was also important that the symposium was held in the usual / regular format, i.e. face-to-face. It is worth remembering that this is a biennial scientific event of importance not only in the Baltic region but certainly internationally. Due to the Covid19 pandemic, the fourth symposium was held remotely. A review of this symposium has also been published (Lamanauskas, 2021). By the way, reviews of previous symposia have also been published (Lamanauskas, 2015; 2017; 2019). The symposium's fundamental aim is to promote science and technology education. Moreover, it is an excellent tool to disseminate research findings as well as to build collaboration and cooperation network. Another important aim is to show that Baltic region countries also actively participate in natural science and technology education research, especially in the STEAM context. In addition, Baltic countries, as well as other small regions of the world, need corresponding, close communication, and cooperation. During this symposium, all these essential ideas were developed and supported.

Scientific events (e.g. symposia) are clearly significant in many senses. As noted by Hauss (2020), usually, they bring together a complex network of academic and non-academic experts to discuss and disseminate new knowledge in a particular area of science. The COVID19 pandemic has understandably disrupted, to some extent, the organisation and running of normal scientific events such as conferences and symposia. We had to adapt to the new conditions and move towards academic events in a distance (online) format. On the other hand, much has been learnt, many challenges have been overcome, and the advantages and disadvantages of both models have become more fully apparent. However, whether virtual, blended, or other formats, whether venue-based or remote, it is clear that science events will remain an important aspect of academic life for the foreseeable future (Donlon, 2021).

The Fifth International Symposium was held on June 12-15 this year. The topic of the Symposium was “Science and technology education: New developments and innovations”. More than 50 scientists from 18 countries participated in the symposium. The geographical spread of the symposium's participants is quite wide. Researchers from Brazil, Croatia, Czech Republic, Estonia, Finland, Italy, Latvia, Poland, Serbia, South Korea, Taiwan, etc.

The symposium was organised by the scientific methodological centre “Scientia Educologica”, an associated member of Lithuanian Scientific Society. The main symposium partner was Šiauliai County Povilas Višinskis Public Library. Šiauliai Technology Training Centre was also an important partner of the symposium. The main sponsor of the symposium was Publishing House Scientia Socialis, Ltd.

This time the symposium lasted for four days. The first day of the symposium began traditionally with the opening of the symposium, including traditional musical greetings. The Musical Greeting "Festival of Beetles" by the ensemble of Šiauliai nursery-kindergarten "Three Dwarfs" was presented. The children were prepared by the art education teacher Ernesta Saveikienė.

Eight main (plenary) reports were planned in the symposium (Figure 3). Plenary report subjects comprised a very wide natural science and technology education problematic spectrum. It was discussed about Cognitive processes, Sustainable development, Engineering pedagogy, and Teachers education.

Plenary presentation authors, presentation topics are given in Table 1.

**Table 1**  
*Information about Plenary Presentations*

Speaker	Topic
Prof. dr. Ching-Ching Cheng <i>National Chiayi University, Taiwan</i>	IMPLEMENTING A NATIONAL DATABASE ON YOUNG CHILDREN'S LEARNING: A LONGITUDINAL STUDY TO EVALUATE THE QUALITY OF PRESCHOOLS
Prof. dr. Andris Broks <i>University of Latvia, Latvia</i>	HUMAN, LIFE, UNIVERSE: HUMAN'S LIFE WITHIN THE UNIVERSE
Prof. dr. Gabriel Gorghiu <i>Valahia University Targoviste, Romania</i>	PROMOTING SCIENCE ACTIONS IN NOWADAYS EDUCATION: AN IMPORTANT ISSUE RELATED TO OPEN SCHOOLING
Mg. phys. Ilva Cinite <i>University of Latvia, Latvia</i>	STUDENT-CENTERED EDUCATION IMPLEMENTATION IN UNDERGRADUATE PHYSICS COURSES OF NATURAL SCIENCES AT THE UNIVERSITY OF LATVIA: SUCCESSES AND CHALLENGES
Prof. dr. Jari Lavonen <i>University of Helsinki, Finland</i>	LEARNING SCIENCE THROUGH PROJECT-BASED LEARNING: US-FINNISH PARTNERSHIPS FOR INTERNATIONAL RESEARCH AND EDUCATION (PIRE)
Dr. Paolo Bussotti <i>University of Udine, Italy</i>	INTRODUCING THE CONCEPT OF ENERGY: EDUCATIONAL AND CONCEPTUAL CONSIDERATIONS
Assoc. prof. dr. Tiia Rüütmann <i>Tallinn University of Technology, Estonia</i>	ENGINEERING PEDAGOGY AND TEACHERS' COMPETENCIES FOR EFFECTIVE TEACHING STE
Assoc. prof. dr. Predrag Pale <i>University of Zagreb, Croatia</i>	WHICH TEACHERS NEED TO BE REPLACED BY AI

On the first day of the symposium, there was an opening ceremony and three plenary presentations (Figure 1 and Figure 2). In addition, poster presentations were made throughout the symposium. Also, on the first day of the symposium, the work was organised in two sessions with a total of 10 presentations (Table 2 and Table 3).

**Table 2**  
*Information about Session 1 Presentations*

Speakers Name and Surname Entity/Academy represented	Topic of presentation
Angela James <i>Kwazulu-Natal University, South Africa</i>	Learning, sharing and growing: Science in community engagement
Małgorzata Nodzyńska-Moroń, Vladimír Sirotek <i>University of West Bohemia in Pilsen, Czech Republic</i>	The durability of formal knowledge and its restructuring during lifelong learning
Hyoung-Yong Park, Hae-Ae Seo <i>Gyeongin National University of Education, South Korea; Pusan National University, South Korea</i>	The public's understanding of "Evolution" as seen through online spaces
Boris Aberšek, Metka Kordigel Aberšek <i>University of Maribor, Slovenia</i>	Transformation of education from dehumanization back to rehumanization
Vincentas Lamanauskas, Rita Makarskaitė-Petkevičienė <i>Vilnius University, Lithuania</i>	Environmental education in primary school: Meaning, themes and vision

**Figure 1**  
*Symposium Participants*



**Figure 2**  
*Plenary Speech by Predrag Pale*





**Figure 3**  
*Symposium Poster*

**Baltic STE**

**5<sup>th</sup> INTERNATIONAL BALTIC SYMPOSIUM  
ON SCIENCE AND TECHNOLOGY EDUCATION**

**SCIENCE AND TECHNOLOGY EDUCATION:  
NEW DEVELOPMENTS AND INNOVATIONS**

**12-15 June 2023, Siauliai, Lithuania**

**KEYNOTE SPEAKERS**

Speaker	Topic	University/Institution	Flag
Prof. dr. Ching-Ching Cheng <i>National Chiayi University, Taiwan</i>	"IMPLEMENTING A NATIONAL DATABASE ON YOUNG CHILDREN'S LEARNING: A LONGITUDINAL STUDY TO EVALUATE THE QUALITY OF PRESCHOOLS"	Prof. dr. Ching-Ching Cheng <i>National Chiayi University, Taiwan</i>	
Prof. dr. Andris Broks <i>University of Latvia, Latvia</i>	"HUMAN, LIFE, UNIVERSE: HUMAN'S LIFE WITHIN THE UNIVERSE"	Prof. dr. Andris Broks <i>University of Latvia, Latvia</i>	
Prof. dr. Gabriel Gorghiu <i>Valahia University Targoviste, Romania</i>	"PROMOTING SCIENCE ACTIONS IN NOWADAYS EDUCATION: AN IMPORTANT ISSUE RELATED TO OPEN SCHOOLING"	Prof. dr. Gabriel Gorghiu <i>Valahia University Targoviste, Romania</i>	
Mg. phys. Iva Cīnīte <i>University of Latvia, Latvia</i>	"STUDENT-CENTERED EDUCATION IMPLEMENTATION IN UNDERGRADUATE PHYSICS COURSES OF NATURAL SCIENCES AT THE UNIVERSITY OF LATVIA: SUCCESSES AND CHALLENGES"	Mg. phys. Iva Cīnīte <i>University of Latvia, Latvia</i>	
Prof. dr. Jari Lavonen <i>University of Helsinki, Finland</i>	"LEARNING SCIENCE THROUGH PROJECT-BASED LEARNING: US-FINNISH PARTNERSHIPS FOR INTERNATIONAL RESEARCH AND EDUCATION (PIRE)"	Prof. dr. Jari Lavonen <i>University of Helsinki, Finland</i>	
Assoc. prof. dr. Paolo Bussotti <i>University of Udine, Italy</i>	Topic "INTRODUCING THE CONCEPT OF ENERGY: EDUCATIONAL AND CONCEPTUAL CONSIDERATIONS"	Assoc. prof. dr. Paolo Bussotti <i>University of Udine, Italy</i>	
Assoc. prof. dr. Tia Rüütmann <i>Tallinn University of Technology, Estonia</i>	"ENGINEERING PEDAGOGY AND TEACHERS' COMPETENCIES FOR EFFECTIVE TEACHING STE"	Assoc. prof. dr. Tia Rüütmann <i>Tallinn University of Technology, Estonia</i>	
Assoc. prof. dr. Predrag Pale <i>University of Zagreb, Croatia</i>	"WHICH TEACHERS NEED TO BE REPLACED BY AI"	Assoc. prof. dr. Predrag Pale <i>University of Zagreb, Croatia</i>	

**Symposium Website:** <http://balticste.com/>

**Symposium Organizers:**

**Symposium Partners:**

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Despite insignificant technical issues, all scheduled presentations were made on time. An in-depth discussion took place, various questions were raised.

**Table 3**  
*Information about Session 2 Presentations*

Speakers Name and Surname Entity/Academy represented	Topic of presentation
Rita Birzina, Dagnija Cedere, Sandra Kalnina <i>University of Latvia, Latvia</i>	Learning skills acquired at school for STEM studies at the university
Martin Bilek <i>Charles University, Czech Republic</i>	The out-of-school science education in the international perspective: The project DOSLECTEP
Kalle Saastamoinen, Antti Rissanen, Arto Mutanen <i>National Defence University, Finland</i>	Intelligent learning in studying and planning courses – new opportunities and challenges for officers
Giovanni Scataglia Botelho Paz, Solange Wagner Locatelli <i>Federal University of ABC, Brazil</i>	The natural sciences curriculum of the city of São Paulo: Conceptions of teachers who teach natural sciences in the early years of elementary school

The second day of the symposium was traditionally dedicated to interactive learning activities. The symposium participants travelled to Žemaitija (Samogitia) (Figure 4). Samogitia is one of Lithuania's most interesting ethnographic regions. In addition, Samogitia is one of the five cultural regions of Lithuania and formerly one of the two core administrative divisions of the Grand Duchy of Lithuania alongside Lithuania proper.

**Figure 4**  
*Trip Information*



The first destination was Plunge. The participants visited the Samogitian Art Museum (Samogitian Art Museum) operating in Mykolas Oginskis Palace since 1994 (Figure 5 and Figure 6). Later, a visit to the Plunge's Technology and Business School was made to learn about the educational process. Plunge's Technology and Business School was established in 1987. Since the beginning of the school's establishment, more than 6000 students finished this school.

**Figure 5**

*Presentation of the M. Oginskis Palace in Plunge*



**Figure 6**

*After the Visit to the Žemaičiai Art Museum*



After the two visits, the symposium participants had lunch at a traditional Lithuanian taverną, a 20-year-old family restaurant near the Vėžaičiai-Plungė road (Figure 7). The tavern has a cosy "home" atmosphere. The owner has created the rustic style and every detail of the interior "from the soul" herself. "The energy of the wood, which dominates the details, soothes a customer who is tired after work or just stopping by for lunch.

In the afternoon, the symposium participants continued their excursion. The Plunge's School of Art was visited (Figure 8). This excellent school is named after Mykolas Oginskis, a Duke, diplomat, and political figure of the Republic of the Two Nations (Polish–Lithuanian Commonwealth). Participants toured the school and listened to music performed by students.

**Figure 7**

*After the Lunch in Karčema / Tavern*



**Figure 8**

*Visiting Plunge's Mykolas Oginskis Art School*



The last object in this route was the Samogitian Village Museum in Telšiai town (Figure 9 and Figure 10). It is a subdivision of the Samogitian Museum "Alka", which was established in the 1960s in the southwestern part of the shore of Lake Mascis, on an area of 8.5 ha. The museum has 16 buildings, comprising three farmhouses and a public sector. They reflect the late 19th and early 20th century. The buildings, which date from the 19th century to the 19th century, represent the rural landscape of Samogitia.

**Figure 9**

*Visiting Samogitian Village Museum*



**Figure 10**

*Introduction to the Samogitian Museum "Alka"*



The third day of the symposium was as busy as ever in the academic sense. Four plenary presentations were made, reflecting a wide range of topics. These were reports made by P. Pale (Croatia), G. Gorghiu (Romania), P. Bussotti (Italy), and I. Cinite (Latvia). In addition, on the same day, work was carried out in three sections with a total of 15 presentations (Table 4).



**Table 4**  
*Presentations from Sessions 3, 4 and 5*

Speakers Name and Surname Entity/Academy represented	Topic of presentation
<i>Third session</i>	
Maja Kerneža <i>University of Maribor, Slovenia</i>	Fundamental and basic cognitive skills required for teachers to effectively use Chatbots in education
Dejan Zemljak <i>University of Maribor, Slovenia</i>	Advanced tools for skill development: Learning preparations using ChatGPT
Jelena Kosmaka, Ilva Cinite, Girts Barinovs <i>University of Latvia, Latvia</i>	Exploring interactive H5P video as an alternative to traditional lecturing at the physics practicum
Jovita Ponomariovičė <i>Vytautas Magnus University, Lithuania</i>	Competency-based science education: the case of one Lithuanian school
Jan Francisti, Zoltán Balogh, Milan Turčáni <i>Constantine the Philosopher University in Nitra, Slovakia</i>	The use of internet of things technology in the pedagogical process
<i>Fourth session</i>	
Young-Joon Shin, Hyunju Park, Hae-Ae Seo <i>Gyeongin National University of Education, South Korea; The War Memorial of Korea, South Korea; Pusan National University, South Korea</i>	The influence of a project-based club program on middle school students' action competency in responding to climate change
Gabriel Gorghiu, Mihai Bîzoi, Laura Monica Gorghiu, Claudia Lavinia Buruleanu <i>Valahia University of Targoviste, Romania</i>	Students' perceptions and attitudes regarding science following the implementation of the "Rewilding" science action
Sabina Wieruszewska-Duraj <i>University of Natural Sciences and Humanities, Poland</i>	The effectiveness of ecological education of children in the research concept of Celestyn Freinet
Radu Lucian Olteanu, Gabriel Gorghiu <i>Valahia University of Targoviste, Romania</i>	Increasing the students' interest in science by implementing a science action dedicated to plastics biodegradability
Solange Locatelli <i>Federal University of ABC, Brazil</i>	Drawings to learn chemistry: Limits and possibilities
<i>Fifth session</i>	
Saša A. Horvat, Tamara N. Rončević, Ivana Z. Bogdanović, Dušica D. Rodić <i>University of Novi Sad, Republic of Serbia</i>	Differences in graphic illustrations in the contents of natural sciences in regular textbooks and textbooks for students with special educational needs in the Republic of Serbia
Marcella Seika Shimada, Solange Wagner Locatelli <i>Federal University of ABC, Brazil</i>	Students' perception of an inquiry-based metavisual activity about concepts of chemical kinetics
Agneš R. Sedlar, Tamara N. Rončević, Saša A. Horvat <i>University of Novi Sad, Republic of Serbia</i>	The application of interactive learning tasks made by using digital hybrid illustrations in the topic "Hydrocarbons" in eighth-grade organic chemistry classes
Tamara N. Rončević, Saša A. Horvat, Dušica D. Rodić, Ivana Z. Bogdanović <i>University of Novi Sad, Republic of Serbia</i>	Secondary school students' perception of biochemistry concepts by using word association test
Carla Patricia Araujo Florentino, Marcella Seika Shimada, Solange Wagner Locatelli <i>Federal University of ABC, Brazil</i>	Prior knowledge about science from drawings by a group of deaf students

The third day of the Symposium concluded with the Symposium Dinner, which took place in Naisiai (Figure 11). Naisiai is one of the most visited villages, famous not only within Šiauliai district but all over Lithuania. The Balts' Arena is one of the most important, impressive, and largest objects in Naisiai (Figure 12). In other words, it's an open-air museum that's great fun to visit.

**Figure 11**  
*In Naisiai Village*



**Figure 12**  
*Exploring the Balts' Arena*



The fourth and final day of the symposium was dedicated to interactive activities. The keynote interactive presentation was given by Prof. Andris Broks (University of Latvia), with the assistance of colleagues from other countries. We had a really interesting and rich debate, as well as a discussion of the symposium. The last day of the symposium took place at Šiauliai Technology Training Centre (Figure 13). The Centre organised two workshops for the symposium participants: Floristic educational activities and Photography educational activities (Figure 14). The symposium participants had a unique opportunity to learn about the composition of bouquets, as well as photo art activities.

**Figure 13**  
*At Šiauliai Technology Training Centre*



**Figure 14**  
*After the Workshops*



During the whole symposium, various country researchers shared their insights on possible further collaboration. All the symposium papers were published as open access Symposium Proceedings (<https://www.ceeol.com/search/book-detail?id=1123290>). Also, it is freely available on Research Gate: [https://www.researchgate.net/publication/371666351\\_Science\\_and\\_technology\\_education\\_New\\_developments\\_and\\_innovations\\_Proceedings\\_of\\_the\\_5th\\_International\\_Baltic\\_Symposium\\_on\\_Science\\_and\\_Technology\\_Education\\_BalticSTE2023](https://www.researchgate.net/publication/371666351_Science_and_technology_education_New_developments_and_innovations_Proceedings_of_the_5th_International_Baltic_Symposium_on_Science_and_Technology_Education_BalticSTE2023) and ERIC (Institute of Education Sciences): <https://eric.ed.gov/?q=BalticSTE&id=ED629086>.

In summary, the work of the Symposium was meaningful and fruitful. Academic experiences were shared, and new contacts were made. Thus, the fifth symposium leaves only good impressions and valuable experience. The symposium can be at least partially accessed on the YouTube channel, where the main video material is posted (Table 5).

**Table 5**  
*Information on the Dissemination of the Symposium*

Title	URL
Presentation by Boris Aberšek, Slovenia	<a href="https://www.youtube.com/watch?v=-PegPC4dIVw">https://www.youtube.com/watch?v=-PegPC4dIVw</a>
Presentation by Jari Lavonen, Finland	<a href="https://www.youtube.com/watch?v=Uqtp88IXbMw">https://www.youtube.com/watch?v=Uqtp88IXbMw</a>
Outdoor activities / Excursion, 13 June 2023	<a href="https://www.youtube.com/watch?v=kwZ0htmEjjM">https://www.youtube.com/watch?v=kwZ0htmEjjM</a>
Presentation by Andris Broks, Latvia	<a href="https://www.youtube.com/watch?v=Tt-AoADs7G8">https://www.youtube.com/watch?v=Tt-AoADs7G8</a>
Presentation by Paolo Bussotti, Italy	<a href="https://www.youtube.com/watch?v=Cq8a_AHYImU">https://www.youtube.com/watch?v=Cq8a_AHYImU</a>
Presentation by Ching-Ching Cheng, Taiwan	<a href="https://www.youtube.com/watch?v=rm2hhl_ejJQ">https://www.youtube.com/watch?v=rm2hhl_ejJQ</a>
Presentation by Gabriel Gorghiu, Romania	<a href="https://www.youtube.com/watch?v=y3Tysb7tqrw">https://www.youtube.com/watch?v=y3Tysb7tqrw</a>
Presentation by Tiia Rüütimann	<a href="https://www.youtube.com/watch?v=jT3pwenDw9I">https://www.youtube.com/watch?v=jT3pwenDw9I</a>
Presentation by Zoltan Balogh, Slovakia	<a href="https://www.youtube.com/watch?v=YGxxnrak2HE">https://www.youtube.com/watch?v=YGxxnrak2HE</a>
Workshops I and II	<a href="https://www.youtube.com/watch?v=fYUdgMDTECU">https://www.youtube.com/watch?v=fYUdgMDTECU</a>
Presentation by Predrag Pale, Croatia	<a href="https://www.youtube.com/watch?v=LSpfZxH9Lio">https://www.youtube.com/watch?v=LSpfZxH9Lio</a>
Presentations_Section 5	<a href="https://www.youtube.com/watch?v=qFKkH9HAxcM">https://www.youtube.com/watch?v=qFKkH9HAxcM</a>
Presentation by Ilva Cinite, Latvia	<a href="https://www.youtube.com/watch?v=LZF3KlIfMbY">https://www.youtube.com/watch?v=LZF3KlIfMbY</a>
Presentations_Section 1	<a href="https://www.youtube.com/watch?v=Ms-Y4Mt0Kr0">https://www.youtube.com/watch?v=Ms-Y4Mt0Kr0</a>
Symposium Overview	<a href="https://www.youtube.com/watch?v=J-mv5Tw7_1g">https://www.youtube.com/watch?v=J-mv5Tw7_1g</a>

All in all, it was an intense symposium, useful in every sense. It not only presents the latest research results but also fosters scientific cooperation between researchers from different countries. It is clear that the contacts established during the symposium between researchers from Lithuania and other countries will not only be a definite incentive for the exchange of new ideas but will also create an opportunity for joint research projects.

It is expected that the sixth symposium will take place in Šiauliai in June 2024. Detailed information is given on the symposium website: <http://balticste.com>.

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Received 29 June 2023; Accepted 29 September 2023

Cite as: Lamanauskas, V. (2023). 5<sup>th</sup> international Baltic symposium on science and technology education "Science and technology education: New Developments and innovations (Balticste2023)": Symposium review. *Švietimas: politika, vadyba, kokybė / Education Policy, Management and Quality*, 15(1), 61-71. <https://doi.org/10.48127/spvk-epmq/23.15.61>



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# **ŠVIETIMAS: POLITIKA, VADYBA, KOKYBĖ**

## **2023, Vol. 15 No. 1**

*Sudarė* Vincentas Lamanauškas (vyriaus. red.)  
*Redaktorė* Loreta Šimutytė-Balčiūnienė  
*Dailininkė* Loreta Šimutytė-Balčiūnienė  
*Anglų kalbos korektorė* Ilona Ratkevičienė

2023-12-29. 4,625 leidyb. apsk. l. Tiražas 80 egz.

*Išleido* MMC „Scientia Educologica“  
Donelaičio g. 29, LT-78115 Šiauliai  
El. paštas [gu@gu.puslapiai.lt](mailto:gu@gu.puslapiai.lt)

*Spausdino* UAB „Šiaulių spaustuvė“  
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# **EDUCATION POLICY, MANAGEMENT AND QUALITY**

## **2023, Vol. 15, No. 1**

*Compiler* Vincentas Lamanauškas (Editor-in-Chief)  
*Language Editor* Loreta Šimutytė-Balčiūnienė  
*Desinger* Loreta Šimutytė-Balčiūnienė  
*English language proofreader* Ilona Ratkevičienė

29 December 2023. 4,625 printer's sheets. Edition 80.

*Publisher* SMC „Scientia Educologica“, in cooperation with Scientia Socialis, Ltd  
Donelaicio Street 29, Siauliai, Lithuania  
E-mail: [gu@gu.puslapiai.lt](mailto:gu@gu.puslapiai.lt)

*Printing* Joint-stock company „Šiaulių spaustuvė“  
9A P. Lukšio Street  
LT-76207 Šiauliai, Lithuania  
Email: [info@dailu.lt](mailto:info@dailu.lt), phone/fax +370 41 500 333  
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# 2023, Vol. 15, No. 1

ISSN 2029-1922/Print/

ISSN 2669-1159 /Online/

Žmogaus ugdymo proceso sudėtingumą salygoja tai, kad žmogus nepakartojamas, unikalus, sudėtingas kūno, proto, dvasios lydinus yra ugdymo objektas.

Tačiau kartu žmogus yra ne tik veikiamas iš šalies, bet ir pats veikia kaip subjektas. Pedagogo uždavinys derinti ugdytinio poreikius su jo paties veikla, nes tik tokiu būdu galima siekti ugdymo efektyvumo.

Svarbiausia išorinių poveikių ugdymo objektui derinimo su paties ugdytinio kaip subjekto veikla salyga yra ugdytinio pažinimas.

Prof. Juozas Vaitkevičius

The complexity of human education is determined by the factor that human being as a unique and many-sided composition of body, mind and soul is an object of education. Thereby, human can be either externally affected or act as a subject. The goal of a teacher is to combine learner's needs and personal activity as this is the only way to achieve efficiency in education. External impacts on the object of education have to join the activities of a trainee as a subject where knowing the trainee is the main requirement.

Prof. Juozas Vaitkevičius



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